Infinity State Zero Model Number

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ABSTRACT - The concept of number system formation is proposed here addition with several properties directing to appropriate consequence. An analysis on complements of number also given which may introduce us to the concept of negative thing and can explain most of the logic in Mathematics. A master number reside with zero and divide itself and create sub-number which is bounded in an external circle of a fixed position . The numbers may also provide internal circle and circle in circle . At a range of point the circle is fulfilled and consumed by zero where all sub-number converge to the master . New number are formed by combination and again bounded to a circle . The process continues infinitely. Meanwhile the concept is useful in every area of science. Application in distributed system is shown. The system having the special property as every object is described with every object which may give the appropriate description of nature.

1. Introduction

We are looking into the universe with every of ours perspective view. In free state object spread equally to all direction. Now we are looking over the concept of number system formation although modern mathematics having several types of number system. Further we can describe "Mathematics as connections".

1.1 History and concept of Number System

In the Babylonian mathematics having sexagesimal positional number system of base 60 . The lack of a positional value(or zero) was indicated by a space between sexagesimal numerals. A punctuational symbol was co-opted as a placeholder in the same sexagesimal number system but it was not true zero because it was not used alone or it does not use at the end of the number. Later in Arabia and India zero treated like any other number which refers to the word void and the concept of number system as " place to place 10 times in a value" is the origin of modern decimal number system. Later in China the concept of "subtraction, addition, negative number and positive number" was established. The Greecks were insured about the status of 0 as a number because the question arise "How nothing can be something"? As a number in most system 0 was identified before the idea of negative things that go lower then. Successive position of digits have higher weights , so inside a numeral the digit zero is used to skip a position and give appropriate weights to the preceding and following digits. Zero having infinite number of factors. Any number divide by zero is undefined.

1.2 Elementary Number theory

0 is the smallest non-negative integer. Zero is followed by 1 and no natural number precedes 0.The number 0 may or may not be considered a natural number, but it is a whole number and hence a rational number , a real number as well as an algebraic number and a complex number. The number 0 is neither positive nor negative and appears in the middle of a number line. It is neither a prime number nor a composite number. It cannot be prime because it has an infinite number of factors and cannot be composite because it can not be expressed by multiplying prime numbers (0 must always be one of the factors). Zero is even because it can be divisible by 2. Although we know about the property of zero but the question is that, how the number system formed?

2. Review on existing work(Delta Function)

ABC means basic facts about the subject. In Greece it denoted as $\alpha\beta\partial$. Now let us discuss about the Delta(∂) functions. Delta means change. We can define two types of energy acted upon any object.

1. Internal energy
2. External energy

So, if any external energy acts upon any object we can simply derive that, Total energy=internal energy + external energy.

2.1 Impulse Function

When a large force acts for a short time, then the product of force and time called impulse in applied mechanics. The unit impulse function is the limiting function,

$$\partial(t-1) = 1/e, \quad a< t < a + e$$

$$= 0, \quad \text{otherwise.}$$

The value of the function(height of the strip in the figure) becomes infinite as e$\rightarrow$ 0 and the area of the rectangle/strip is unity.

$$\int_0^\infty \partial(t-a).dt = 1$$

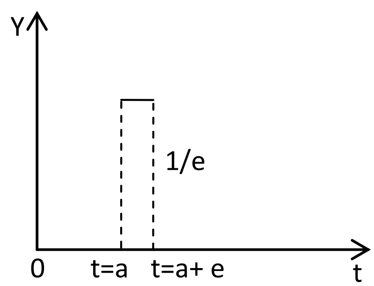

Figure 2.1.1 Impulse function.

The Unit impulse function defined as follow,

$\partial(t\text{-}a) = \infty$, for t=a

$=0$, for $t \neq a$.

Two types of delta function are,

1. Dirac delta function[7].
2. Kronecker delta function[7].

Now we arrive to a basic point, first we are starting with a question, "If we throw a stone on water what will happen?" The answer can be simply given, the position where hit it creates an empty space and creates a number of circle around the empty space. So how the empty space fulfilled? We can say that, the circles created before consumed to empty space and converged to original point. Let us look at the effect of energy as impulsion, as we mentioned earlier in free state object spread equally to all direction. Now we may be able to understand, proposed model of number system described in section 3.

3. Proposed Model

3.1 Infinity state zero model number

3.1.1 Method:

A master number reside with zero. Then the master number is divided into sub-numbers in a fixed position of a circle and bounded into that circle. At that point of view master number is also a sub-number. When the circle is completed, it is consumed to zero and all sub-number converge into the master .The master number again divide and the sub-numbers combine with zero, itself, with other and with the master forming compound number which also act like sub-numbers .Every number fulfill its own circle. Sub-numbers are only created and bound to circle only when all sub-numbers converge to the master which was created before. The process continues to infinity. See figure 3.1.1

Let, the master number is 5. As we mentioned earlier in a free state object spread equally to all direction. We take master number 5 because it appears at the middle of the natural number digit. It divides into sub-numbers equally as 1,2,3,4 and 6,7,8,9 in a fixed position of an external circle and Sub-numbers orient in that position of the corresponding circle.

External Circle: The circle, in which the sub-numbers are bounded is called external circle.

Internal circle: The Circle created between 0 and 5 by transitioning between them called internal circle.

Now look closely to the master number 5.Logically it appears after 4 means it must be belongs to external circle, but it resides with zero it also belongs to internal circle, which gives the special property existent with non-existent or reversely. Here we take the perspective view on external circle when after 4 to 5 or transition from 0 to 5 means existent property and perspective view on internal circle transition from 5 to 0 means non-existent property. But it can not be same time belonging to both circles, for that reason we take perspective view. These effects can be described by,

1. Distance effect.

2. Small particle effect.

Distance effect: Any object resides too much distant from another object it seems to having the property of existent with non-existent. Distant may be close to ∞.

Small particle effect: Any object is much small close enough to 0, it changes the state so frequently that remains with the property of existent with non existent.

Now let us look at an example, a person traveling on bus he will notice that road is moving, person stand beside road notice the bus is moving. We can not combine both result but can take either one of their perspective view. Here we describe everything by its corresponding weight or state.

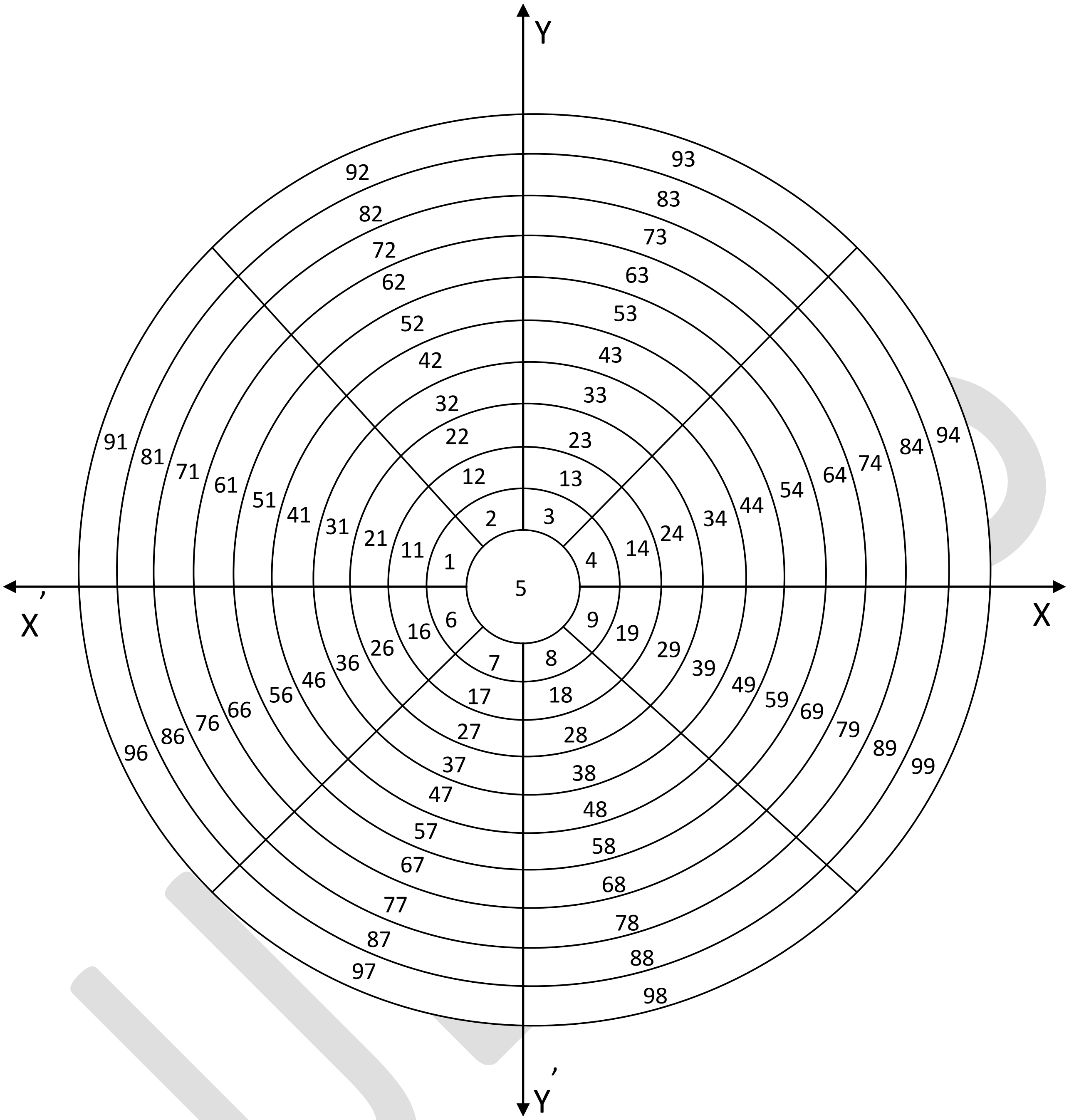

Figure 3.1.1 Infinity zero model number.

Now back to the example, every number having corresponding weight or state. 5 is higher weight than 4 because when we count 5, from external circle added with internal circle. Same time 6 has higher weight than 5 because from internal circle it added with external circle. Now See figure 3.1.2 and 3.1.3. we see that ,starting from Zero :1,2,3,4,6,7,8,9 are bounded in a external circle.1 starts with a direction – and going to direction + when the number going from 2 to 3.Again a transition is occurred when a half circle completed while the number is 4 then next number is 5.Transition occurred between 0 to 5.Again 6 starts with a direction + and going to – when the number is 8.And when the next number is 9 the circle number 1 is fulfilled , but not completed. Any circle complete if and only if its corresponding internal circle is completed. We see in the figure 3.1.2 that in circle number 1(external) we start from a direction – and when the circle is fulfilled the direction is same as the starting.

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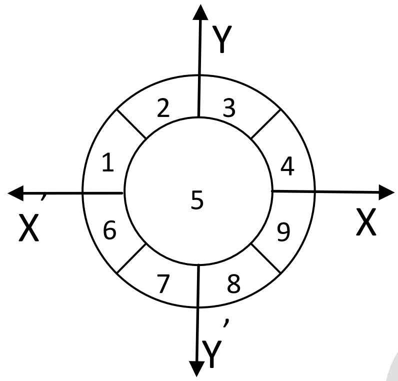


Figure 3.1.2 Number bounded in a circle of fixed position.

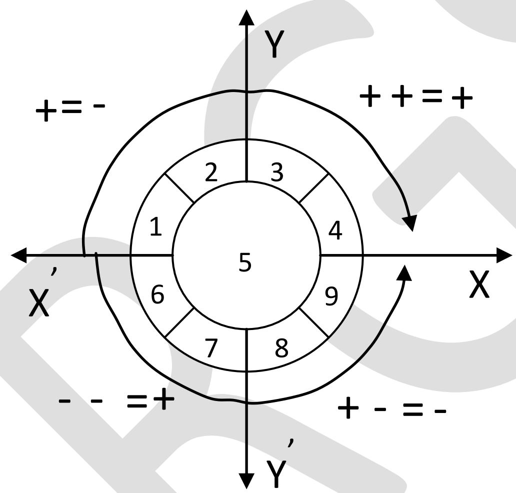


Figure 3.1.3 Internal and External circle

Now after 9 the next number is 10,means 1 combine with 0.We have seen that while starting from 0 when the number was 4 then we count 5 means transition from 0 to 5 and while any number(here 1) combine with 0 then 5 give up control or transition from 5 to zero where an internal circle is completed .As the internal circle completed then the external circle is also completed or All sub-numbers 1,2,3,4,6,7,8,9 consumed to zero and converged to the master. See figure 3.1.4.

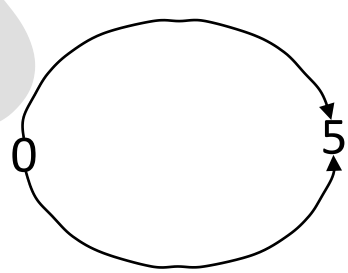


Figure 3.1.4 Complete internal circle process.

Now the sub-numbers begin to combine with itself, other sub-number and the master number. For example 1 combine with itself with 2,3,4,5,6,7,8,9 and creates its own circle. Any number only can combine with its current mate and the lower circle sub-numbers which was consumed to zero and converged to master before (Figure 3.1.5).

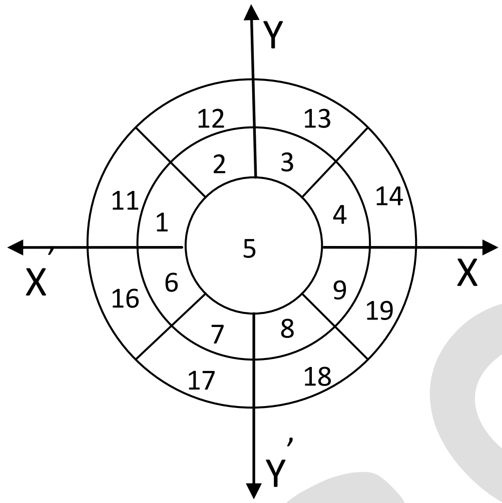


Figure 3.1.5 Circle of 1

Look closely any number combination with 0 and master is not shown in figure 3.1.1 or the 0th,2nd,4th,6th ,…..circle are not shown. Rather any number combine with 0 and master number thought as separate number line. If we want to show any number combined with 0 and 5 it may be as bellow(Figure 3.1.6 and 3.1.7), Here we only show the combination process, if we want to see whole numbers as the 0th ,1st ,2nd ,3rd ,4th ,…..circles then the system may be like bellow(Figure 3.1.8),

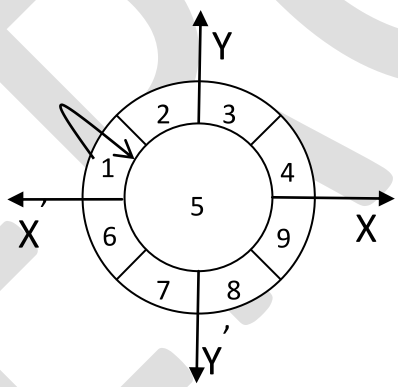


Figure3.1.6 Number combination with zero(10)

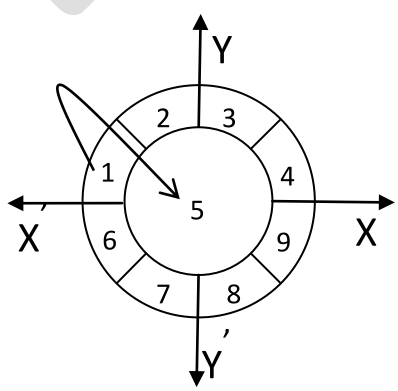


Figure 3.1.7 Number combining with master(15)

But we strongly reject this system (figure 3.1.8) because we can not show all circles same time because any sequence comes positively and negatively one after another which continues to infinity, if we separate any part from the sequence it is not visible to other part of that sequence. So external circle is not visible to internal circle process or if we can show external circles, we can not show internal circles. For that reason we use infinity state zero model number system in Figure 3.1.1(Showing all external circles. Internal circles as the thought of combination). If we can show and consider both separate part same time (Although not possible) the result can be converted to anywhere as wishes which may be logical or illogical or both(Reiman Series Theorem).

Now we can show the circle of 2,3,4,5,….10,11,..100,….and for all numbers(Figure 3.1.1). The number system process continues to infinity (Figure 3.1.1).

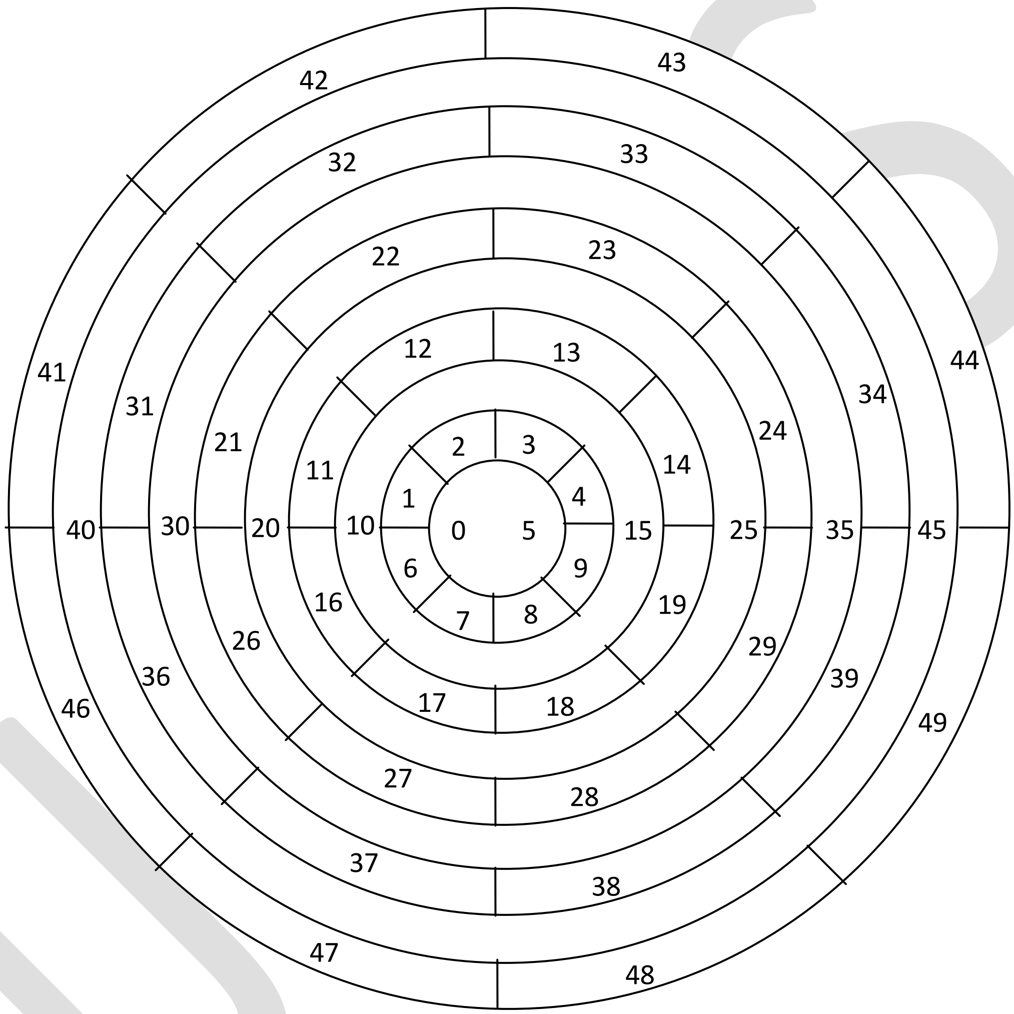


Figure 3.1.8 All number sequence.

3.1.2 Properties of the Number system

Circle in circle:

In a external circle when every number of that circle completed their own circle or any number combine with more than 1 internal circle then a circle in circle is produce. For example in circle number 1 ,the number 1,2,3,4,5,6,7,8,9 complete their own circle after that a circle in circle is created .While the number is 99 then the next number is 100 or here 1 combine with two internal circle. A circle in circle is produced. As another example when the circle number is 3 means 11,12……19,when last number of circle 3 completed its own circle or 19 complete its own circle by 19 combine with 9 the next number is 200,a circle in circle is created.

Identity:

We can begin concept of identity as with a question "Is the number 9999, circle of 999 or 99 or 9?"

The question can be answered as bellow by Identity:-

9999 is not the circle of 9 because 9 can not combine with 999.Because 999 is created after 9 and 999 is not converged to the master before 9 or 999 is not the mate of 9 in same circle. On the other hand 9999 is the circle of 99.because 99 can combine with itself and other which was converged to the master before itself and the number of same circle. But 99 having a circle of its own when the number is 999.Here the number 999 is in the circle of 99.But 999 yet not having an identity or its own circle .For that reason for the number 9999 identity is given to 999 or easy word 9999 is the circle of 999.If any number having its own circle, identity is given to possibly new one.

Cross-point: If we draw a straight line through the master number from a position of a circle to the opposite end of that circle, the summation of one end with other end will always be equal or same as other straight line goes through the same circle (figure 3.1.9).

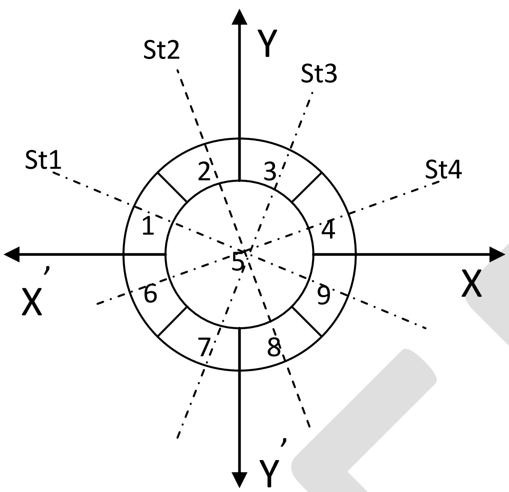


Figure 3.1.9 Summation and cross point of a circle.

Cross-point of all straight line is 5.In 1st circle two end point of 1st straight line st1 is 1 and 9.Then the summation is 1+9=10.Similarly in the 1st circle for the straight lines,

St1 → 1 + 9 = 10
St2 → 2 + 8 = 10
St3 → 3 + 7 = 10
St4 → 4 + 6 = 10

For 3rd circle the summation of two end point of the straight line,

St1 → 11 + 19 = 30
St2 → 12 + 18 = 30
St3 → 13 + 17 = 30
St4 → 14 + 16 = 30

Similarly for the 5th circle and so forth…………The summation is same .The summation of two end point of any one of the straight line provide the total number of internal + external circle. For our decimal number system the base is 10, if base is r and two end point of straight line are e1 and e2 of a certain circle then,

$$Total\ number\ of\ (internal + external)\ circle = \frac{e1 + e2}{r}$$

Here, number 18 is in the position of total internal + external circle:18+12=30;Then, 30/10=3.So total internal + external circle position for 18 is 3.Now when the number is 5 or any number combining with 5 ,then the total internal+ external circle can be calculated by the perspective view on internal circle or external circle.5 or any number combining with 5 provide the same number. So e1=e2.

Perspective view on external circle for 5 or any number combining with 5 then,

$$Total\ number\ of\ (internal + external) circle = \frac{2 * e1}{r}$$

Perspective view on internal circle for 5 or any number combining with 5 then,

$$Total\ number\ of\ (internal + external) circle = \frac{2 * e1}{r} - 1$$

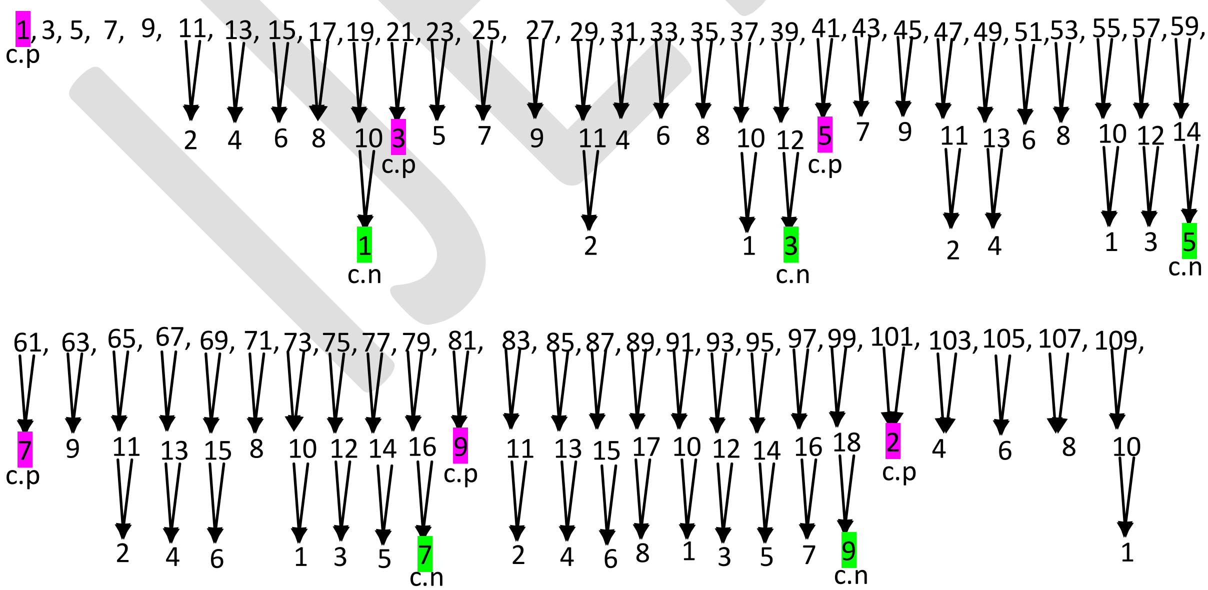
For number 0 or any number combining with 0 provide the same number. Then,

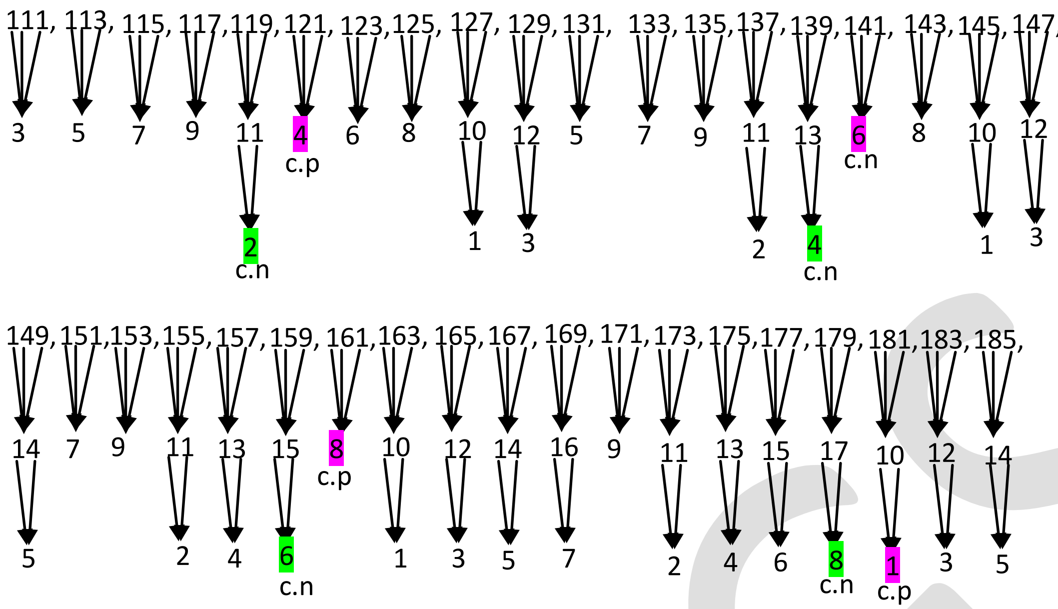
$$Total\ number\ of\ (internal + external) circle = \frac{2 * e1}{r}$$

Number 0 or any number combining with 0 and 5 or any number combining with 5 can be seen as a separate number lines.

Finding circle in circle(Climbing Method):

1. Summation of two end point of certain external circle is as bellow,
For 1st circle is 10,3rd circle is 30…….similarly we get result from various circles as,
10,30,50,70,90,110,130,150,170,190,210,230,250,270,290,310,330,350,370,390,410,430,450,470,490,510,530,550,570,590,610,630,650,670,690,710,730,750,770,790,810,830,850,870,890,910,930,950,970,990,1010,1030,1050,1070,1090,1110,1130,1150,1170,1190,1210,1230,1250,1270,1290,1310,1330,1350,1370,1390,1410,1430,1450,1470,1490,1510,1530,1550,1570,1590…………………………………………and so forth.
2. Dividing the sum by base 10 and adding the constituent part of numbers if exists until no combination is found then we get,





And so forth….

Here we see that a sequence as 1,3,5,7,9,2,4,6,8 and after 8 again back to 1.This sequence is called formal sequence.

Continuous pass (c.p):-Is the variable, which contain the number of total internal + external circle number of start position of the formal sequence. Here c.p is shown by number with red color.

Control to next (c.n): Contain the value of formal sequence which again back to the number as the variable c.p . it provide or give control to the next number of formal sequence and the number which get control made as c.p. Here c.n is shown by number with Green color.

3. If a number is e1, then get it's total internal+ external circle number. Let the number is y.

Initialize total circle in circle x=0.

4. Start from c.p .when we get c.n then take the total number of internal+ external circle found at c.n. Let the number is z.

5. if((z+1)≤ y) then,

x=x+1;

Update the value of c.p to the number of formal sequence where c.n pass the control.

Repeat step 4.

Else

x=x;

6. End.

Example:- 1.See that the first number at formal sequence is 1.so c.p = 1 .

2. Start from 1

3. When the value again back to 1 from formal sequence as bellow

1,3,5,7,9,2,4,6,8,1

The value is assigned to c.n .now c.n=1 .

4. Find total internal + external circle at c.n .it is 19.

5. Add 1 with 19 then 1+19=20

6. Now we want to see any number which having any circle in circle .Let the number is 86, then

86+84=170

170/10=17

17 is the total internal + external circle for 86.But 20>17.So 86 do not have circle in circle.

For further illustration formal sequence used by c.p(Red color) and c.n(Green color) is shown bellow,

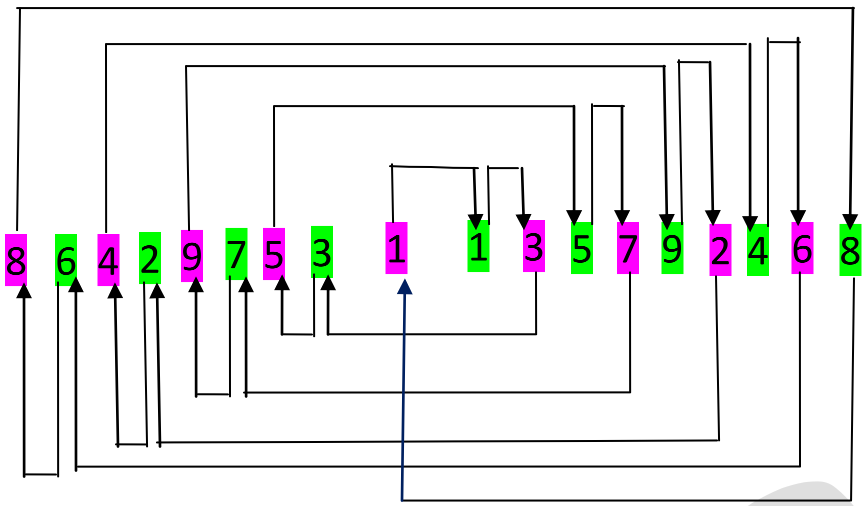


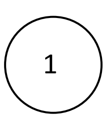
Figure 3.1.10 Formal sequence used by c.p and c.n.

So, we can define the position of any number as,
Position of a number= Total number of (internal+ external) circle + Total number of circle in circle.
There may be found other several circles such as self combination. We neglect these circles for increasing cost and other phenomena.
Now the most interesting part is that, when we want to describe the exact position of any number then, we have to need all numbers which reside in the circles was created before its own resident circle. Same time its current mates are also needed. So we can reach to a conclusion that" Every object is describe with every object".

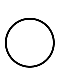
3.2 Self combination and number combination with 0 or Binary number system.
Method:

Any number or master number combination with zero and itself (as 10,11,50,55…etc) how can we show them? This is described by binary number model. The concept is same like as ring protocol. Any number does not know about itself, if it wants to know it has to visit all the number to its circle. Here we let two number as 0 and 1. Here 1 as the master number (or representative of any numbers). In this system external circle also acts as a internal circle because of happening is so frequent and fast that coincides with the property as existent with non-existent.(Figure 3.2.1),

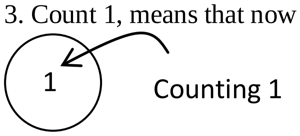
1. 1 reside with zero.



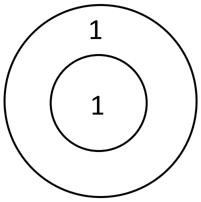
2. Counting 0 first



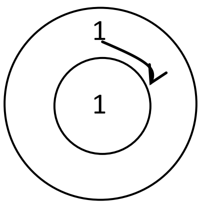
3. Count 1, means that now 1 having the existent property, transitioning from 0 to 1.



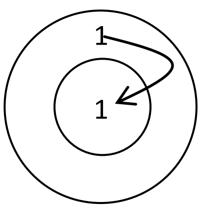
4. Now as 1 having the existent property another 1 is provided to a external circle as bellow,



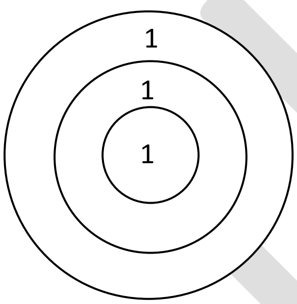
5. External circle is fulfilled the 1 in the external circle combine with 0 means consumed to zero and produce 10. Now look at internal circle where transition from 1 to 0 is done and here complete 1 internal circle. Also look at external circle that 1 consumed to zero means transition at external circle is 1 to 0 where external circle act as internal circle.



6. Now 1 converged to master and produce the number 11 by combination with master.



6. Now all 1's converged to master meaning existent property. Then another 1 is provided to external circle.



7. At first external circle transition was 1 to 0 and internal was 0 to 1. As the 2nd external circle fulfilled 1 of that circle consumed to 0.means transition will occur at internal circle from 1 to 0.Thus the number is 100.Higher order external circle acts as internal circle depending on lower order internal circle.
8. 1 at 2nd external circle now combine with internal circle master keeping transition from 0 to 1, produce 101.
9. Then the number will be 110.see that now 1st external circle completed as internal circle. Now the 2nd external circle completed because it has completed all of the lower internal circles bellow of it. Now it can combine with 1 to each circle.

10.111 is produced and another 1 is provided to an external circle.
Thus we can produce all binary number sequence. Binary number system model as bellow,

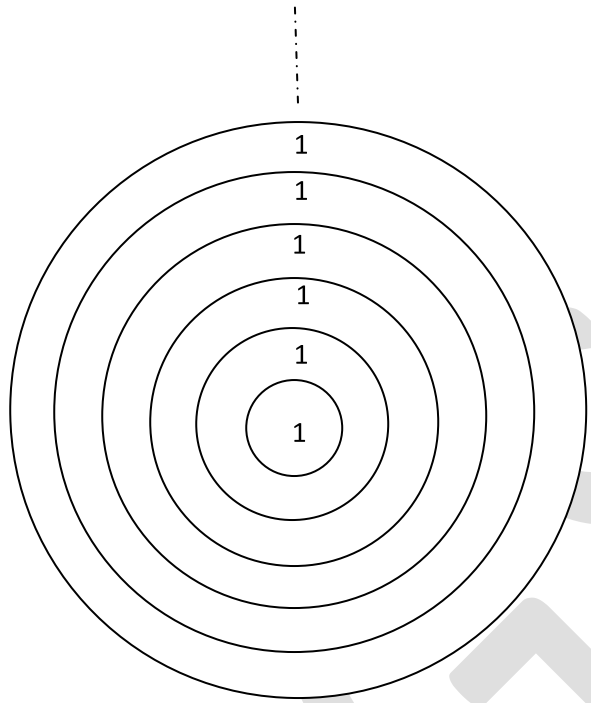


Figure 3.2.1 Binary Number system

4. Analysis

4.1 Complements of Numbers.

Complements are used in digital computers for simplifying the subtraction operation and for logical manipulations .There are two types of complements provided for each base r system,

1. r's complement.

2. (r-1)'s complement.

4.1.1 The r's complement:-

Let given a positive number =N,

Base= r.

N is the positive integer number having n integer part of digits.

Then r's complement of N can be defined as,

$r^n - N$ where $N \neq 0$ and

0 where N=0

10's complement of decimal number can be formed by leaving all least significant zero's unchanged .Subtracting first non zero LSB digit from 10 and then subtracting all higher significant digit from 9.

The 2's complement can be formed by leaving all LSB zeros .First nonzero digit unchanged and then replacing 1's by 0's and 0's by 1's in all higher significant digits.

4.1.2. The (r-1)'s complement:-

Given positive number N in base r system with n integer part of digits and a fraction part of m digits ,The (r-1)'s complement of N can be defined as ,

$$r^n - r^{-m} - N$$

9's complement of any decimal number is formed simply by subtracting every digits from 9 1's complement is most simpler form. The 1's are changed to 0's and 0's are changed to 1.r's complement can be obtained from the (r-1)'s complement after addition of r^{-m} to the least significant digit.

It is worth mentioning that ,the complement of complement restore the original number .The r's complement of N is r^n-N and complement of(r^n-N) is { r^n-(r^n-N)}=N.

Similarly for (r-1)'s complement we can show that complement of complement restore the original number.

If any number having n integer part of digit and m fractional part of digit then it's complement also have m integer part of digit.

4.1.3 Subtraction using r's complement:-

Subtraction between two positive numbers (M-N) both of base r may be done as the following procedure.

1.Add the minuend M to the r's complement of subtrahend N.

2. if an end carry occurs ,discard it and the result is positive.

3.if an end carry does not occur ,take the r's complement of the number obtained in the 1st step and place a negative sign.

The proof of procedure is as bellow:

Addition of M to the r's complement of N gives (M+r^n-N).For numbers having integer part of n digits

And r^n =1 in the (n+1)'th position(What has been called the end carry),M and N are positive numbers.

a. (M + r^n - N) >= r^n if m>=N

b. (M + r^n - N) < r^n if M<N

In case, a. answer is positive and equal to M-N ,which is obtained directly discarding the end carry.

In case , b. answer is negative and equal to -(M-N),which is detected from the absence of an end carry .The answer is obtained by taking a second complement and adding a negative sign.

-{r^n –(M+r^n-N)}

= - (N-M)

4.1.4 Subtraction using (r-1)'s complement:-

Subtraction between two possible numbers (M-N) both of base r may be done as the following procedure.

a. Add minuend M to the (r-1)'s complement of the subtrahend N.
b. If an end carry occur add 1 to the LSB digit and the result is positive.
c. If end carry does not occur take the (r-1)'s complement of the number obtained in first step and place a negative sign.

4.1.5 Subtraction between same number:-

In some cases problem arises when subtraction between same number .The example is given bellow.

4.1.5.1. Example:-Subtract (110-110) using 9's and 10's complement.

Solution:- Here M=N=110

And n=3 and m=0

Using 9's complement:-9's complement of 110 is

10^3-10^{-0}-110 =889

$$\begin{array}{r} 110 \\ +889 \\ \hline 999 \end{array}$$

Here no carry occur .So 9's complement of 999 is (10^3-10^{-0}-999)=000

So the result is -0 which is totally complicated matter.

Using 10's complement:- 10's complement of 110 is (10^3-110)=890

So,

$$\begin{array}{r} 110 \\ +\ 890 \\ \hline 1000 \end{array}$$

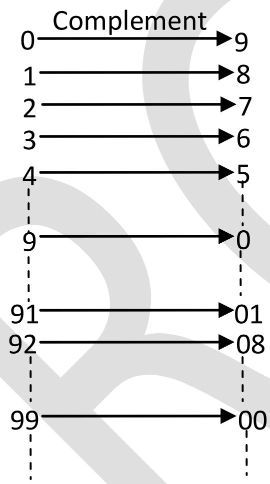
End carry

Discarding the end carry the result is +000.Although (r-1)'s complement is much faster than the r's complement ,then r's complement is better than the (r-1)'s complement for performing arithmetic operation.

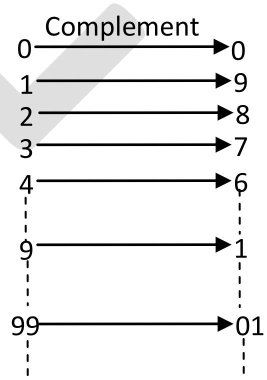
4.1.6. For 0 ,r's and (r-1)'s complement:-

Addition and subtraction can only be done between two numbers with same number of integer part of digit and same number of fractional digit.

When we find the complement of zero, it is encountered as integer part of digit .If we consider 0 as the integer part of digit ,then 10's complement of 0 itself is (10^1-0)=10.But we know that complement of complement restore the original number .Here complement of 10 do not restore 0.Here an end carry occurs as we know any number having n part of integer digit then it's complement must also have n part of integer digit. For that reason the end carry just discarded. We see 9's complement as,



And 10's complement as,



Subtraction operation done by taking complements of that number which being to be subtracted. If a number is N in (M-N), to find its complement it is taken such a position that the number of that position is added to M. Here we are taking the number(complement) perspective view on N. For example if 7 -4 is done we add a number perspective view on 4.Hence the number is 6(10's complement). So, to perform subtraction operation we take perspective view on addition. We can define the position of complement for number N from the infinity state zero model number.

4.1.6 Defining position of complement for N

We can define the position of complement for number N from the infinity state zero model number(r's complement).
If any number N having n integer part of digit then by following method,

1. Let $a=10^n$
$k=n - 2$
b=Total (internal+external) circle for N.
c=Total circle in circle for N.
z=Position of the complement for N.
x=(2*a)/10;

2.Perspective view on external circle:-

```
If (N==0) then,
{
z=0;
}
 Else if(k≤0) Then,
{
If(b>0) Then,
{
z= x – b;
}
}
Else if(c≠0) then,
{
z= x – b+10^k - c;
}
Else
{
z= x – b+10^k - 1;
}
```

Perspective view on internal circle:-

```
If(N==0) then,
{
z=0;
}
Else if(k≤0) then,
{
If(b≤0) then,
{
If(LSB of N is 5) then,
{
z=x – 2;
}
}
Else if(LSB of N is 5) then,
{
z= x – b-2;
```

```
}
Else
{
z=x-b;
}
}
Else if(c≠0) then,
{
If(LSB of N is 5) then,
{
z= x – b+10^k - c-2;
}
Else
{
z= x – b+10^k - c;
}
}
Else if(c==0 and LSB of N is 5) then,
{
z= x – b+10^k - 3;
}
Else
{
z= x – b+10^k - 1;
}
```

3.Draw straight line from a circle positioned at x or x-1(Depending on N belongs to internal or external circle) to all lower circle of it through the master number and ended at opposite end of the circle position x or x-1 (As we mention earlier for 0 or any number combine with zero the number line would be start from 0 to all number combining with zero and for 5 or any number combine with 5 the number line would be start from 5 to all number combining with 5.So they treated like separate number lines).

4.For number N belongs to a straight line, at position z find the number at opposite end (From N) of the line.This number is the complement of N.

Example:-Find complement of 19.
Solution: Here n=2;
k= 2 -2 =0;
a=100;
b=3;
c=0;
x=20;
So the position of complement for N is,
z = x –b+0
=20-3=17
Straight lines drawn fom circle number 19 through 5 to all circles,19 falls to straight line 1(Figure3.1.6). At opposite end of straight line 1,at position 17 the number is 81.
So 81 is the complement of 19.

The concept of complement in infinity state zero model number can be shown as a simple phylosophy “As higher as lower”.If we define a higher position for a number N,complement can be found at lower position.

From binary model we see that the last number created for n=3 is 111 and the first number created is 1 or 001.Notice that r's complement of 111 is 001.

Basic operation on mathematics is mostly addition and subtraction.We notice that subtraction operation is described by perspective view on addition.All mathematical operation can be simply describe by addition,consequence of addition and perspective view on addition.The universe is additive!

5. Application

The concept described in chapter 3(Infinity state zero model number system) can be widely use in Mathematics, Physics, chemistry, Computer science etc. The use of the concepts in distributed system can be as bellow.

5.1 Distributed system application

Here we define 3 types of nodes.

1.**Client:**The nodes request for specific events. 2.**Intermediate manipulator:** This nodes are responsible for manipulating clients request, scheduling and pass the request to appropriate servers to serve. 3.**Server:**These nodes handle request and serves to the appropriate client defined by the intermediate manipulator node.

Now as the use of the concept, think all numbers as client, number combining with zero as the intermediate manipulator node and any number combining with master as the server node. This system is applicable for wide computational network.

5.1.1 Method:

Here the master number as the whole system. The system divides into sub-part.as we know every number has own circle except zero. The number at higher level is the smaller circular area. Here the intermediate manipulator are thought of as virtually connected and parent manipulator having the knowledge of its children manipulator. The process is as bellow,

1.Client request for an event to its corresponding intermediate manipulator.(For example if a client node is 7 then its corresponding intermediate node is 0).Client send request along with its address and destination address .

2.Intermediate manipulator handle the request, verify and find the appropriate server.

f the server is intermediate manipulators corresponding server then,

The server perform operation and send the result to the corresponding intermediate node.

The intermediate node pass the result to the client.

Else if,

The server is not corresponding to intermediate manipulator then, find the appropriate children manipulator which having the knowledge about the requested server.

Else,

The current manipulator request its parent manipulator to find appropriate along with its current state status. 3.Repeat step 2 until no appropriate server is found. A monitoring node is established to monitor that if the process arrives to leaf manipulator node the system terminated.

See figure 5.1.1.

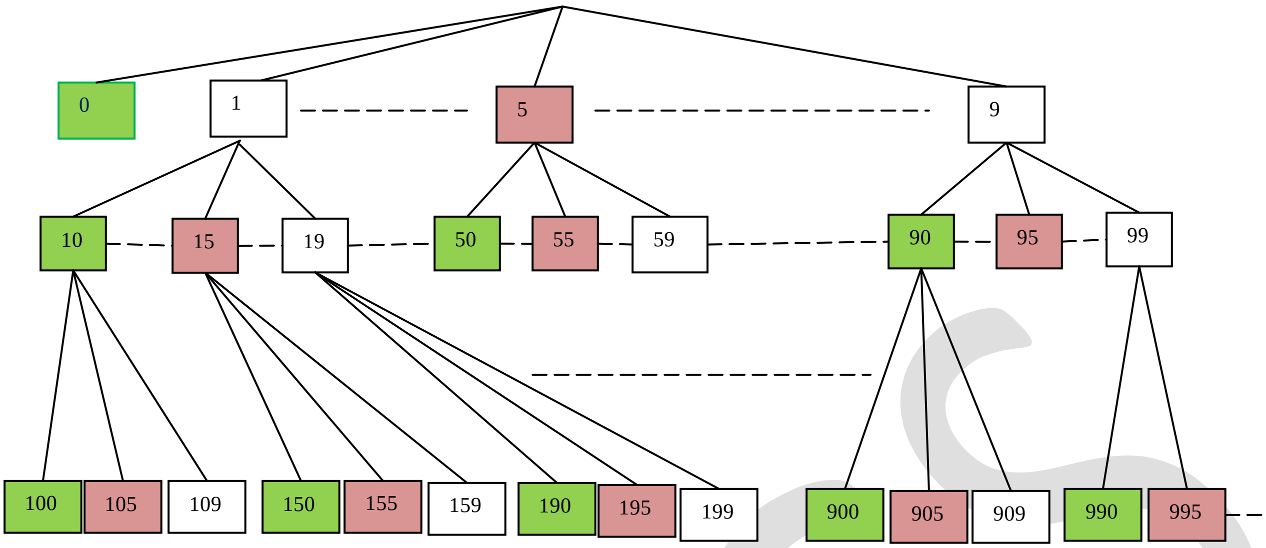


Figure 5.1.1 Proposed Distributed approach.

Example 5.1.1.1:- A client node(Let 109) request for an event to a server 995 what will happen?

Solution:- 1.The client 109 send request to its corresponding manipulator 100.The manipulator decides if the request can handle by its corresponding server but its corresponding server can not. So it decides if its children manipulator having the ability but children manipulator not having such ability. So it request parent manipulator 10 by giving its status. Manipulator 10 decide if the server 15 can serve but it does not.

2.Manipulator 10 now decide if its children manipulator 110,120,….150…190 except 10 can handle but the do not. So 10 request its parent manipulator 0 to handle request. Manipulator 0 decides if server 5 can handle request but it does not. So it decide if children manipulator can do the job. Manipulator 90 can do the job.

3.Manipulator 0 request to 90 with its status.90 check if 95 can do the job. Then it request its children manipulator 990 to do the job with its status while it computes that 990 can do the job.

4.Manipulator 990 find that 995 can do the job. It request to 995.Server 995 do necessary computing and send result to 990.Manipulator 990 send back result to 90.

5.Manipulator 90 receive result and 990 remove status from 90.Manipulator sends back result to manipulator 0 and removes status. Then 0 sends back result to10 and removes status.10 sends result to 100 and removes status and at last 100 sends result to client 109 and removes status from 109.

The system shown in figure 5.1.1.1 dashed lines means other several number or nodes. Blue colored numbers as manipulator and red as server. If our total address space is 2^n-1(Binary) dividing address space we can form a huge computational system. Although several protocols and algorithms have been established for distributed system this system can be used for more reliable, secured, huge computational power and efficient system although there remains a problem of time consumptions.

5.2 Other applications.

Nuclear energy:- The number system described in chapter3 can be used to produce huge amount of nuclear energy. Note that in Radiant object neutron of nucleus divides into electron and proton. Electron emits as β ray. Application of other fields are as Classification in Computer science, Neural network, Artificial intelligence etc.

6. Conclusion

We find several property from the infinity state zero model number system such as the property of master number ”Same time it is one and everyone ”,which exactly used in distributed system for centralized algorithm. From finding circle in circle we notice that “Every object is exactly described with every object”. The most interesting part is that, in this number system we described everything as fixed but factors added with them making it variable and relative. But in theory of relativity by Sir Albert Einstein “Mass of any object is relative”. It is possible to find other property from this number system model and the concept can be used in all aspect of science. In this century it is challenge for mathematics to solve the scientist Hilbert’s 20^{th} problem as “The master algorithm can be devise” and its time remaining to solve the problem .The infinity state zero model number may be able to make impact or help for solution. Analysis on complement describe the concept of negative things which is mostly used in modern computer science and from this model it is seen that “Mathematics as connections”.

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