STEPPING STONE
SCHOOL (HIGH)

CLASS : IX

Subject: Computer Application
Date: 30/06/20
Topic: Loop (while loop)
Time Limit: 1 hour

Worksheet No.:9

- Please go through all the questions and answers thoroughly.
- Write all the questions and answers in your exercise book.
- Ensure neat and tidy work.
- Do not write above the red line of the notebook pages.
- Use single-lined notebook with ....120..... pages and write with black ink.
- Make a content page first with different heads as given bellow.

Date	Worksheet no	Chapter no and name	page no	Teacher's signature

Java While Loop

The while loop loops through a block of code as long as a spec ified condition is true:

Syntax

```
while (condition)
 {
   // code block to be executed
 }
```

Example

```
int i = 0;
while (i < 5)
{
   System.out.println(i);
   i++;
}
```

Let us write few programs by using while loop Program 1

Input a number and print sum of all the digits of the number.

```
class temp
{
   public static void main(int n)
   {
      int r=0,s=0;

       while(n>0)
       {
          r=n%10;
          s=s+r;
          n=n/10;
```

```
        }
          System.out.print(s);
        }
}
```

Working of the program :

Let us assume we inputted a number 123 So the value of n=123

while(n>0) the condition given is true as 123>0 is true.

so r=123 % 10 , if we divide 123 by 10 reminder is 3(% symbol is used to find the reminder)

so value of r= 3 and value of s , s=0+3=3 , in the next statement n=n/10 , it means n=123 /10 , mathematically it is 12.3 but as n an int type data it cannot store any fractional value so n will become 12. n=12.

As 12 is greater than 0 same process will continue. r=2 , s=s+r it means s=3+2, s=5.

Again n=n/10 so n=1. As 1 is greater than 0

So r=1%10 which is 1, r=1 ,s=5+1=6 n=n/10 , so n=1/10 ,n=0.1 As n cannot hold a fractional value n=0;

As while(n>0) is false because 0>0 is false so the loop will stop.

System.out.print(s) will print the value of s.

So the output will be 6.

Program 2

A number is a Neon number, if sum of the digits of square of a number is equal to the number itself. Example: Number 9 is a Neon number, because 9 is equal to sum of the digits of square of number (9x9 = 81 = 8+1 = 9).

```
class Neon
{
   public static void main(int n)
   {
      int r=0,s=0;
      int m=0;

     m=n;
     n=n*n;
      while(n>0)
      {
         r=n%10;
         s=s+r;
```

```
        n=n/10;
    }


    if(s==m)
    {
      System.out.print("neon number ");
    }
    else
    {
       System.out.print("not a neon number ");
    }
}
}
```

Program 3

Input a number and check whether the number is palindrome or not .

(When a number and the reverse of the number is same it is known as palindrome)

```
class Palindrome
{
   public static void main(int n)
```

```
   {
      int r=0,s=0;
      int m=0;
      m=n;


      while(n>0)
       {
          r=n%10;
          s=s*10+r;
          n=n/10;
       }

       if(s==m)
       {
         System.out.print("Palindrome Number ");
       }
       else
       {
 System.out.print("Not a Palindrome number ");
       }
}
}
/*
Working of the program
```

e.g. n=123 ,As m=n so m=123

while(n>0) is true

r=123%10=3

s=0*10+3=3

n=n/10 =12.3=12

as 12 >0 while loop continues

r=12%10=2

s=3*10+2=32

n=12/10=1.2=1

as 1>0 while loop continues.

r=1%10=1

s=32*10+1=321

So in s we are getting the reverse of the value of n. When inputted number is equal to the reverse of the number then the number is palindrome.

***/**

Program 4.

A number is said to be a sumproduct number if sum of all the digits are equal to product of all the digits of the number. e.g 123

1+2+3=6

1*2*3=6

Input a number and check whether the number is a sumproduct number or not.

```
class Sumproduct
{
   public static void main(int n)
   {
      int r=0,s=0,p=1;
      while(n>0)
       {
          r=n%10;
          s=s+r;
          p=p*r;
          n=n/10;
       }
       if(s==p)
       {
         System.out.print("Sumproduct number ");
       }
       else
       {
          System.out.print("Not a sumproduct number ");
```

```
        }
}
}
```

/*

Working of the program

Like previous process in s we are adding all the digits of n and in p we are finding the product of all the digits of n

If s and p are equal then inputted number is a sumproduct number */