write a program to reverse a word using loop? Not to use inbuilt functions.

Sample Input:

string: Temple

Sample: Output:

Reverse string: Elpmet

```
Scanner input = new Scanner (system. in);
String name = input. nextLine();
String empty = " ";
int len = name. length();
{
for (int i = len-1 >=0; i--)
. empty = empty + name. charAt(i);
}
System. out. print (empty);
```

41. write a program to find the sum of digits of 'N' digit number (sum should be single digit)

Sample input:

Enter N value : 3

Enter 3 digit number: 143

Sample output:

Sum of 3 digit number : 8

```
Scanner input = new Scanner (System.in);
int n = input.nextInt();
int sum = 0;
while (n!=0)
{ int rem = n%10;
  sum = sum+rem;
n = r/10;
}
System.out.println (sum);
```

02) write a program to find the Square root of a Perfect square number (print both the Positive and negative values)

Sample Input:

Enter the number: 6561

Sample Out Put:

Square Root: 81, -81.

```
import java.util.scanner;
import java.lang.math;
Public class ak
{  public static void main (string args[])

Scanner input = new scanner(system.in);
double n = input.next int();
double sqrt = math.pow(n,0.5);
double sq = math.Sqrt(n);
System.out.Println(,Sqrt+", "+"-"+Sqrt);
```

49. Binary number and octal number :

```
public class Binary {
    public static void main (String[] args);
        int dec = 13;
String bin = integer . to Binary String (dec);
String oct = integer . to octal String (dec);
System.out.println (" Binary number = " + bin");
System.out.println ("octal number = " + oct);
    }
}
```

---

50. Bonus :-

```
public class Bonus {
    public static void main (String[] args) {
    Scanner input = new Scanner (System.in);
    int a, b;
    double bonus = 0;
    System.out.print (" ");
char a1 = input
```

```
System.out.print(" ");
int b1 = input.nextInt();
if (a1 == 'A')
{
  bonus = b1 * (0.05);
  if (b1 < 100000)
    {
      bonous = bonus + b1 * (0.02);
  }
  System.out.println("salary = " +b1 " );
  System.out.println("bonus = " +bonus);
  System.out.println("total to be paid =
                    " +(b1 +bonus));
}
Else if (a1 == 'B')
{
  Bonous = b1 * (0.1);
    if (b1 < 10000)
  {
    bonus = bonus + b1 * (0.02);
}.
```

43) write a program for matrix multiplication?

Sample input:

mat 1 = 1 2

5 3

mat 2 = 2 3

4 1

Sample output:

mat sum = 10 5

22 18

```
Scanner input = new Scanner (System.in);
int r= input.nextInt();
int c = input.nextInt();
int mat1 [] [] = new int [r] [c];
int mat2 [] [] = new int [r] [c];
for (int i=0; i<r; i++)
{
   for (int j=0; j<c; j++)
   mat1 [i] [j] = input.nextInt();
}
}
for (int i=0; i<r; i++)
```

```
{
    mat2[i][j] = input.nextInt();
  }
}
int sum[][] = new int[r][c];
for (int i=0; i<r; i++)
  for(int j=0; j<c; j++)
  mat2[i][j] = input.nextInt();
  sum[i][j] = 0;
   for (int k=0; k<c; k++)
  {  sum[i][j] = sum[i][j] + mat1[i]
                          [k] * mat2[k][j];
  System.out.print(sum[i][j] + "\t");
  }
  System.out.println();
}
```

---

44) write a program to print inverted pyramid Pattern.

```
Scanner input = new Scanner(System.in);
int n = input.nextInt();
for (int i=n; i>=1; i--)
{ for (int j=0; j<n-i; j++)
  } System.out.print(" ");
```

```
    }
    System.out.println();
}
```

1. Write a program to count all the prime and composite numbers entered by the user

Sample input:

Enter the numbers.

4
54
29
71
7
59
98
23

Sample output:

Composite number: 3

Prime number: 5

```
int arr[] = {4, 54, 29, 71, 7, 59, 98, 23};
int com=0, pri=0;
for (int i=0; i < arr.length; i++)
{
    int c=0;
    for (int j=1; j <= arr[i]; j++)
    {
        if (arr[i] % j==0)
            c++;
    }
```

```
if (c>1)
    com++;
else pri++;
}
system.out.print("composite number: "+com);
system.out.print("\n prime number : " pri);
```

2. Find the mth maximum number and nth minimum number in an array and then find the sum of it and difference of it.

Simple input:

Array of elements = {14, 16, 87, 36, 25, 89, 34}

M=1

N=3

Sample out put:

1st maximum number=89

3rd minimum number=25

Sum =114.

Difference=64.

```
int arr[] = {14, 16, 87, 36, 25, 89, 34};
int len = arr.length;
for (int i=0; i<len; i++) {
for (int j=i+1; j<len; j++) {
If (arr[i] > arr[j]) {
    int temp = arr[i];
    arr[i] = arr[j];
    arr[j] = temp;
```

```
    }
  }
}
int m=1, n=3;
int max = arr [len-m];
int min = arr [n-1];
System.out.print(m+" maximum number = "+max);
System.out.print("\n"+n+" minimum number = "+min
int Sum = max + min;
int Diff = max - min;
System.out.print("\n Sum = "+Sum);
System.out.print("\n Difference = "+Diff);
```

3) write a program to print the total amount available in the ATM machine with the conditions applied.

Total denominations are 2000, 500, 200, 100 get the denomination priority from the user to display the total available balance to the user sample input:

Enter the 1st Denomination: 500

Enter the 1st Denomination number of notes: 4

Enter the 2nd Denomination : 100

Enter the 2nd Denomination number of notes : 20

Enter the 3rd Denomination : 200

Enter the 3rd Denomination number of notes : 32

Enter the 4th Denomination : 2000

Enter the 4th Denomination number of notes : 1

Sample output:

Total Available Balance in ATM : 12400

int n1=500, d1=4, n2=100, d2=20, n3=200, d3=32, n4=2000, d4=1;

Int Total = (n1*d1) + (n2*d2) + (n3*d3) + (n4*d4);

System.out.print("Total Available Balance in ATM : "+Total);

---

(4) write a program using choice to check.

Case : 1 : Giving string is palindrome or not

Case : 2 : Given string is palindrome or not Sample Input :

Case = 1

String = Madam

Sample out put

Palindrome

```
String s1 = "MADAM";
String s2 = "";
int len = s1.length();
for (int i = len-1; i>=0; i--)
{ s2 = s2+s1.charAt(i);
}
if (s1.equals(s2))
    System.out.print("palindrome");
else:
  System.out.print("not palindrome");
```