**UNIVERSITY OF RWANDA**

**COLLEGE OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF ICT**

**COMPUTER SCIENCE**

**LEVEL 2**

**JAVA PROGRAMMING**

**GROUP 2**

***ASSIGNMENT 1 OF JAVA PROGRAMMING***

***On March 10, 2016***

***PREPARED BY:***

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**QUESTION 1:**

package q1;

import java.io.\*;

public class Q1

{

public static void mara()throws IOException

{

int n;

String s;

int i;

DataInputStream d=new DataInputStream(System.in);

System.out.println("enter number:");

s=d.readLine();

n=Integer.parseInt(s);

System.out.println("the multiple table of"+n+"is:");

i=1;

while(i<=12)

{

System.out.println(n+"\*"+i+"="+n\*i);

i++;

}

}

public static void main(String[] args) throws IOException

{

mara();

}

}

**QUESTION 2:**

package message;

import java.io.\*;

public class MESSAGE {

public static void integer\_number() throws IOException

{

int n;

int i;

String p;

System.out.println("enter number:");

DataInputStream s=new DataInputStream(System.in);

p=s.readLine();

n=Integer.parseInt(p);

if(n<20)

{

int sum=0;

for(i=1;i<=n;i++)

{

sum+=i;

System.out.print(i+" ");

}

System.out.println("\nsum="+sum);

}

else

{

i=1;

while(i<=n)

{

System.out.println(i+".Java is the Best");

i++;

}

}

}

public static void main(String[] args) throws IOException

{

integer\_number();

}}

**QUESTION 3:**

package square;

import java.io.\*;

public class SQUARE {

public static void summation() throws IOException

{

int a;

int i,j;

String m;

int sum=0;

int square=1;

System.out.println("enter number:");

DataInputStream p=new DataInputStream(System.in);

m=p.readLine();

a=Integer.parseInt(m);

if(a>10 && a<20)

{

i=1;

while(i<=a)

{

square=i\*i;

sum +=square;

i++;

}

System.out.println("the sum of square for all integer numbers="+sum);

}

else

{

for(i=1;i<=a;i++)

{

for(j=1;j<=i;j++)

{

System.out.print("\*");

}

System.out.println(" ");

}

}

}

public static void main(String[] args)throws IOException {

summation();

}}

**QUESTION 4:**

package triangles;

import javax.swing.\*;

public class TRIANGLES {

public static int putdata()

{

String m;

JOptionPane g = new JOptionPane(System.in);

m = g.showInputDialog(null,"Enter a number less than 20: ");

int a;

a= Integer.parseInt(m);

return a;

}

public static void shape( ){

int k,l, n;

n = putdata();

if(n<20){

for(k=1; k<=n;k++) {

for(l=n; l>=k;l--){

System.out.print(l+" ");

}

System.out.println(" ");

}

}

else

{

for(k=1;k<n;k++)

System.out.println(k+"."+" Programmers at UR");

}

}

public static void main(String[] args) {

shape();

}

}

**QUESTION 5:**

package factorials;

import javax.swing.\*;

public class FACTORIALS {

public static int fact(int a)

{

if(a==1||a==0)

return 1;

else

return (a\*fact(a-1));

}

public static void main(String[] args) {

String m;

JOptionPane p = new JOptionPane(System.in);

m = p.showInputDialog(null,"Enter a number less than 20: ");

int number;

number = Integer.parseInt(m);

if(number>5&&number<20)

p.showMessageDialog(null,number+ "!= "+fact(number)) ;

else {

int i;

i=1;

do{

System.out.println(i+"."+" We are the Future of Java Programming");

i++;

number--;

} while(number>1);

}

}

}

**QUESTION 6:**

package triangles2;

import javax.swing.\*;

public class TRIANGLES2 {

public static void Pascal2(int a)

{

int k,j,l;

for(k=1;k<=a;k++)

{

for(l=1;l<k;l++)

System.out.print(" "+" ");

for(j=k;j<=a;j++)

System.out.print(j+" ");

System.out.println(" ");

}

}

public static void Message( int n){

int i;

i=1;

while(i<=n)

{

System.out.println(i+". Programming Heaven");

i+=2;

}}

public static void main(String[] args) {

String p;

JOptionPane o = new JOptionPane(System.in);

p= o.showInputDialog(null,"Enter a number less than 10: ");

int number;

number = Integer.parseInt(p);

if(number<10)

Pascal2(number);

else

Message(number) ;

}

}