UNIVERSITY INSTITUTE OF TECHNOLOGY
BARKATULLAH , BHOPAL (M.P)

ASSIGNMENT

SUBJECT :- JAVA LAB

SUBMITTED BY :- RUCHIR DONGRE

BATCH :- COMPUTER SCIENCE

SUBMITTED TO :- BHAWANI SIR

Name :- Ruchir Dongre
Branch :- CSE
6 Semister :- 3rd

1) Java "Hello, World!". Program

```
Class HelloWorld {
    Public Static Void main ( String [ ] args) {
        System.out.println ("Hello, World!");
    }
```

Output :- Hello World!

2) ~~To Java~~ WAP to perform all arithmatic ~~op~~ operation of 2 number?

```
~~to~~ import java.util.Scanner;
    public class Arithmetic_operators
{   public static void main (String args[])
    {   Scanner s = new Scanner (System.in);
        While (true)
        {   System.out.println (" ");
            System.out.println ("Enter the two numbers
                to perform operations");
        System.out.print ("Enter the first number : ");
            int x = s.nextInt();
        System.out.print ("Enter the Second number: ");
            int y = s.nextInt();
        System.out.println ("Choose the operation you want
                to perform");
        System.out.println ("Choose 1 for ADDITION");
        System.out.println ("Choose 2 for SUBTRACTION");
        System.out.println ("Choose 3 for MULTIPLICATION");
```

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1) Java "Hello, World!". Program

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                to perform");
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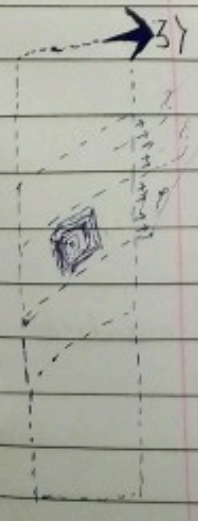
        System.out.println ("Choose 2 for SUBTRACTION");
        System.out.println ("Choose 3 for MULTIPLICATION");
```

```
System.out.println("Choose 4 for DIVISION");
System.out.println("Choose 5 for MODULES");
System.out.println("Choose 6 for EXIT");
    int n= S.nextInt();
    Switch(n)
{   Case 1:
    int add;
    add. = x+y;
    System.out.println("Result : "+add);
    break;
    Case 2:
    int Sub;
     Sub=x-y;
    System.out.println("Result : "+Sub);
    break;
    Case 3:
     int mul;
     mul = x * y;
    System.out.println("Result : "+ mul);
      break;
    Case 4:
    float div;
    div = (float) x/y;
    System.out.print("Result: ("Result : "+ div);
     break;
     Case 5:
     int mod;
     mod = x %y;
    System.out.println("Result. : "+mod);
     break;
    Case 6:
```

Case 6:
System.exit(0);
}}}}

Output $ javac Arithmetic_Operators.java
$ java Arithmetic_operators

Ent
Enter the two numbers to perform operations
Enter the first number : 12
Enter the second number : 45
Choose the operation you want to perform
Choose 1 for ADDITION
Choose 2 for SUBTRACTION
Choose 3 for MULTIPLICATION
Choose 4 for DIVISION
Cho Choose 6 for EXIT
1
Re Result : 57



3) WAP to perform all arithmatic operation of of 2 number taking input for User?

```
import java.util.Scanner;
public class Main {
public static void main (String [] args)
    Scanner in = new Scanner (System.in);
System.out.println (" Enter any two positive
                    integer numbers : ");
// Reading data Using readline
int p = in.nextInt();
int q = in.nextInt();
int sum, sub, mul, mod;
```

```
float div;
    Sum = p+q;
    Sub = p-q;
    mul = p*q;
    div = p.p/q;
    mod = p%q;

System.out.println("\n\SUM "+p+" + "+q+"= "+Sum);
System.out.println("DIFFERENCE "+p+"-"+q+"="+Sub);
System.out.println("PRODUCT "+p+"*"+q+"= "+mul);
System.out.println("QUOTIENT"+p+"/"+q+"= "+div);
System.out.println("MODULUS"+p+"%"+q+"= "+mod);
}
```

Output :- Enter any two positive integer numbers :

5

8

SUM 5+8=13

DIFFERENCE 5-8=-3

PRODUCT 5*8=40

QUOTIET 5/8=0.0

MODULUS 5%8=5

4) WAP to find the largest largest number of three numbers?

```
import java.util.Scanner;
public class largestNumberExample1
{
    public static void main(String[] args)
    {
        int a,b,c, largest, temp;
```

```
// object of the Scannner class
Scanner sc = new Scanner (System.in);
// reading input from the User
System.out.println ("Enter the first number:");
    a = sc.nextInt();
System.out.println ("Enter the Second number:");
    b = sc.nextInt();
System.out.println ("Enter the third number:");
    c = sc.nextInt();
// Comparing a and b and storing the largest number
    in a temp Variable
    temp = a > b ? a : b;
// Comparing the temp Variable with c and Storing the
    result in the Variable
    largest = c > temp ? c : temp;
// prints the largest number
    System..out.println ("The largest number is:" + largest);
  }
}
```

Output :- Enter the first number:
23
Enter the Second number:
11
Enter the third number:
67
The Largest Number is :- 67.

5) WAP to find the largest number of the three numbers Using inbuild function and taking input for User?

```
import java.util.Scanner;
Public static void main (String[] args).
```

public class public class largest Nubmber Example 2

```
{
    public Static void main (String [] args)
    {
    int a, b, c, largest;
    // object of the Scanner. class
  Scanner sc = new. Scanner. (System.in);
    // reading input. from the User.
  System.out.println. ("Enter the first number:");
     a = sc. ~~nextIn~~ nextInt();
  System.out.println ("Enter. the ~~first~~ second number:");
     b= sc. nextInt.();
  System.out.println ("Enter the. third number:");
      c= sc. nextInt();
  largest = c > (a > b ? a:b) ? c :((a>b)? a:b);
  System.out.println ("The largest number is:"+ largest);
  }
}
```

Output :- Enter the first number:
45
Enter the Second number:
87
Enter the third number:
34
The largest number is: 87

6) WAP to find the Smallest number of the three numbers?

```
import java.io.*;
class GFG {
    public Static void main (String [] args) {{
        int a=5, b=7, c=10;
```

```
if( if(a<=b && a<=c)
    System.out.println(a+" is the Smallest");
    else if(b<=a && b<=c)
    System.out.println(b+" is the Smallest");
    else
    System.out.println(c+" is the Smallest");
    }
}
# This Code is Contributed by
```

Output : 5 is the Smallest

7) WAP to find the Smallest number of the three numbers Using inbuild function and taking input from User?

```
import java.util.Scanner;
public class Smallest Number Example1
{
Public static void main (String [] args)
{
int a, b, c, smallest, temp;
// obj object of the Sca Scanner Class
S.Scanner sc = new Scanner(System.in);
// reading input from the User
System.out.println("Enter the first number:");
    a= sc.nextInt();
System.out.println("Enter the Second number:");
    b = sc.nextInt();
System.out.println("Enter the third number:");
    C = sc.nextIn();
// Com Comparing a and b and Storing
the Smallest number in a temp variable
```

```
temp = a<b ? a:b;
// Comparing the temp variable with c and storing
   the result in the variable names Smallest
& Smallest = c < temp ? c : temp;
// print the Smallest number
System.out.println("The Smallest number is:"+Smallest);
  }
}
```

Output:
```
Enter the first number:
23
Enter the Second number:
11
Enter the third number:
67
The Smallest Number is: 11
```

8) WAP to initialize a character and print whether it is lowercase, uppercase and Special Case?

```
public class ChangeCase {
    public static void main (String [] args) {
        String str1 = "Great Power";
        StringBuffer newStr = new StringBuffer(str1);

        for (int i=0; i<str1.length(); i++) {
            // Checks for lower case character
            if (Character.isLowerCase (str1.charAt(i))) {
            // Convert in into upper case using .toUpperCase()
                function
            newStr.setCharAt(i, Character.toUpperCase(str1.char
            newStr.setCharAt(i, character.to upper.to upper Case
            newStr.setChar At(i, Character.toUpper Case (Str1.charAt(i)));
```

```
}
// checks checks Checks for upper Case Character
else if (Character.isupperCase (str1.charAt(i))) {
// Convert it into upper Case Using toLowerCase() function
newStr.setcharAt (i, Character.toLowerCase (str1.charAt(i)));
}
}
System.out.println ("string after Case Conversion :" + newstr);
}
}
```

Output :- String after case conversion : gREAT pOWER.

9) WAP to find root of any given quadric equation

```
import java.util.Scanner;
public Class Quadratic.Equation Example1
{
public static void main (String [] aStrings)
{
Scanner input = new Scanner (System.in);
System.out.print ("Enter the value of a :");
double a = Input.nextDouble.();
System.out.print ("Enter the Value of b :");
double b = Input.next Double ();
System.out.print ("Enter the Value of c :");
double c = Input.next Double ();
double d = b * b - 4.0 * a * c;
if (d > 0.0)
{ double r1 = (-b + Math.pow (d, 0.5)) / (2.0 * a);
double r2 = (-b + -Math.pow (d, 0.5)) / (2.0 * a);
```

```
System.out.println("The roots are"+r1+"and"+r2);
}
else if(d==0.0)
{
double r1= -b/(2.0*a);
System.out.println("The root is"+r1);
}
else
{
System.out.println("Roots are not real.");
}
}
}
```

Output : Enter the Value of a:1
Enter the Value of b:1
Enter the Value of c:1
Roots are not real.

Output : Enter the Value of a:1
Enter the value of b:5
Enter the Value of c:2
The roots are -0.4384471871911697 and
-4.561552812808831

10) WAP to Conversion from decimal to binary taking input from User?

```
import java.io.*;
class GFG {
// function to Convert decimal to binary
static void decToBinary(int n)
{
// array to store binary number
```

11)

```
int [] binaryNum= new int [32];
// Counter for binary array
int i=0;
while (n>0) {
  // storing remainder in binary array
  binaryNum[i] = n%2;
    n= n/2;
    i++;
  }
  // printing binary array in reverse order
for (int j= i-1 ; j>=0 ; j--)
  System.out.print(binaryNum[j]);
}
  // driver program
public static void main (String [ ] args)
  {
    int n = 17;
    decToBinary (n);
  }
}
```

Output 10001 .

11) WAP to Conversion from octal to binary taking input from user?

```
Class OctalToBinary {
  Static String converter (String OctalValue)
  {
    int i = 0;
  String binaryValue = " ";
  while (i< OctalValue.length()) {
    Char c= octalValue.charAt((int)i);
```

```
Switch (c) {
  Case '0':
    binaryValue += "000";
      break;
  Case '1':
    binaryValue += "001";
      break;
  Case '2':
    binaryValue += "010";
      break;
  Case '3':
    binaryValue += "011";
      break;
  Case '4':
    binaryValue += "100";
      break;
  Case '5':
    binaryValue += "101";
      break;
  Case '6':
    binaryValue += "110";
      break;
  Case '7':
    binaryValue += "111";
      break.
  default:
    System.out.println("Invalid Octal Digit"
        "\n" + Octal Value.charAt
                              ((int)i));
      break;
  }
  i++;
```

```
return B; binary Value;
}
public static void main (string Args[])
{
System.out.println ("Octal to Binary Conversion");
    String Octal Number = "315";
System.out.println ("Octal number : " + octal
                                    Number);
String result = Converter (octal Number);
System.out.println ("Binary equivalent Value is :"
                    + result);
```

Output: Octal to Binary Conversion
Octal numb:
Oct Octal number : 315
Binary equivalent Value is : 011001101

12) WAP to Conversion from hex to binary taking input from User?

```
import java.io.*;
Class HexToBinary {
    public static void main (string [] args)
    {
        String s = "1AC5";
        String result = HexToBinary (s);
        System.out.println (result)
    }
Private static String HexToBinary (string input)
    {
        int decimal Value = Integer.parseInt
                            (input, 16);
```

```
String result = Integer.toBinaryString(decimalValue);
        return result;
    }
}
```

Output :- Equivalent Binary Value is :- 0001101011000101

13) WAP to Conversion from binary to decimal taking input from user?

```
Class GFG {
    Static int binaryToDecimal(int n)
    {
        int num=n;
        int dec_value = 0;
        int base = 1;
        int temp = num;
        while (temp > 0) {
            int last_digit = temp
            temp = temp / 10;
            dec_value += last_digit * base;
            base = base * 2;
        }
        return dec_value;
    }
    public static void main(String [] args)
    {
        int num = 10101001;
        System.out.println(binaryToDecimal(num));
    }
}
```

Output :- 169

```
String result = Integer.toBinaryString(decimalValue);
        return result;
    }
}
```

Output :- Equivalent Binary Value is :- 0001101011000101

13) WAP to Conversion from binary to ~~Octal~~ decimal taking input from user?

```
Class GFG {
    Static int binaryToDecimal(int n)
    {
        int num=n;
        int dec_value = 0;
        int base = 1;
        int temp = num;
        while (temp > 0) {
            int last_digit = temp
            temp = temp / 10;
            dec_value += last_digit * base;
            base = base * 2;
        }
        return dec_value;
    }
    public static void main (String [] args)
    {
        int num = 10101001;
        System.out.println(binaryToDecimal(num));
    }
}
```

Output :- ~~169~~ 169

octal

14) WAP to Conversion from binary to hex taking input from User?

```
import java.io.*;
class GFG {
  Static void decTo Octal (int n)
{
  int[] int[] octalNum = new int [100];
    int i = 0;
    while (n != 0) {
      OctalNum OctalNum[i] = n % 88;
      n = n/8;
      i++;
    }
    for (int j = i - 1; j >= 0; j--)
    System.out.print(OctalNum[j]);
  }
  Public Static Void main (String [] args)
    {
      int n = 33;
      decToOctal (n);
    }
  }
```

Output :- 41

15) WAP to print a table input from User?

Conversion from binary to hex taking input from User?

```
Class GFG {
  int binaryToDecimal (long bi binary)
  {
    int decimal Number = 0, i = 0;
    while (binary > 0) {
```

```
        decimalNumber += Math.pow(2, i++) * (binary % 10);
        binary /= 10;
    }
    return decimalNumber;
}
String decimalToHex(long binary)
{
    int decimalNumber = binaryToDecimal(binary);
    String hexNumber = Integer.toHexString(decimalNumber);
    HexNumber = hexNumber.toUpperCase();
    return hexNumber;
}
    Public static void main(String [] args)
    {
        GFG ob = new GFG();
        long num = 10011110;
    System.out.println("Inputted number : " + num);
    System.out.println(ob.decimalToHex(10011110));
    }
}
```

Output : Inputted number : 10011110

9E 9E

table taking

Q16) WAP to find Square root taking input from user?

```
import java.io.*;
    Class table
    {
        public static void main(String arg[])
            int n=5;
        for(int i=1; i<=10; ++i)
            System.out.println(n + "*" + i + "=" + n*i);
```

```
    }
}
```

Output :-

```
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
```

17) WAP to find Square root ~~(ds Using inbuild function~~ ~~func~~ function taking input from User ?

```
import java.util.Scanner;
Public class Find SquareRoot Example1
{
Public Static void main (String [] args)
 {
 System.out.print ("Enter a numbers:");
  Scanner sc = new Scanner (System.in);
    int n = sc.nextInt();
 System.out.println ("The square root of "+n+" is" +
                        SquareRoot (n));
  }
  Public static double squareRoot (int num)
    {
      double t;
      double Sqrtroot = num/2;
      do.  .
```

```
{  t = sqrtroot;
   Sqrtroot = (t + (num / t)) / 2;
  }
  While ((t - Sqrtroot) != 0);
    return Sqrtroot;
   }
}
```

Output :- Enter. Enter a number : 12
The Square root of 12 is : 3.464101615137754 4

Output :- Enter a number : 25
The Square root of 25 is : 5.0

18) WAP to find the Square root Using inbuild function taking input from User?

```
import java.lang.Math;
Class Gfg {
  public static void main (String args[])
  {  double a = 30;
     System.out.println(Math.sqrt(a));
        a = 45;
     System.out.println(Math.Sqrt(a));
        a = 60;
     System.out.println (Math.Sqrt(a));
        a = 90;
     System.out.println (Math.Sqrt(a));
  }
}
```

Output :- 5.477225575051661
6.708203932499369
7.745966692414834

6 9.48683298050513 8

19) WAP to generating fibonacci. & Series. taking. ipu input i from User?

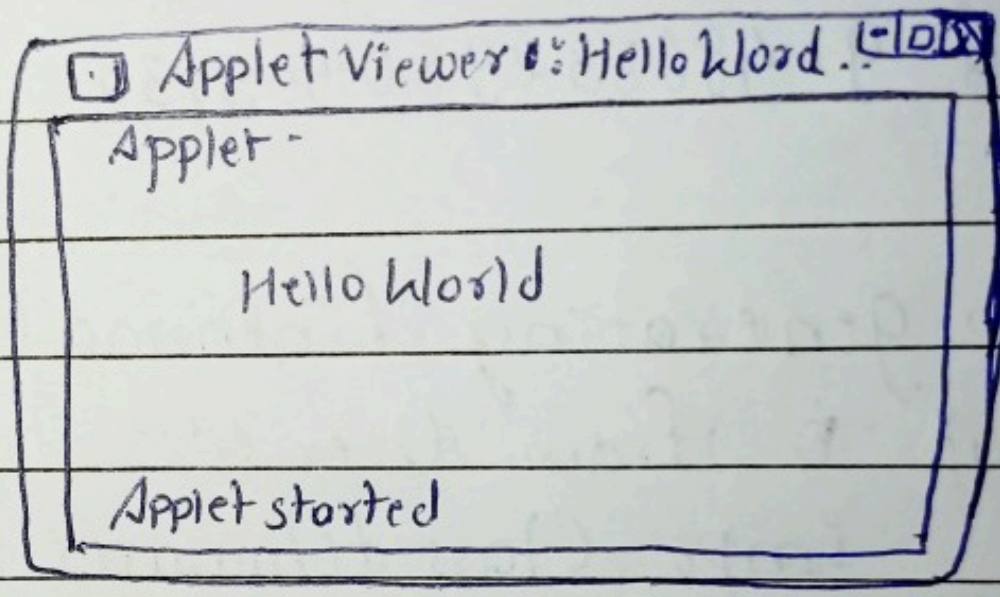
```
impo Class fibonacci
{  static int fib (int n)
   {
   if (n<=1)
      return n;
   return fib (n-1) + fib (n-2);
   }
  public static void main (String args [])
   {
    int n = 9;
   System.out.println ( fib (n));
   }
}
```

Output :- 34

20) WAP to open any type file and print all data?

```
import java.applet.Applet;
import java.awt.Graphics;
public Class HelloWorld extends Applet
  {
    public void paint (Graphics g) (Graphics g)
    {
      g.drawstring ("Hello World", 20,20);
    }
  }
```

Output :-



WAP to open any type of file tak
Window. Screen Shot?

```
import java.awt.AWTExceptio
import java.awt.Rectangle;
import java.awt.Toolkit;
import java.awt.Robot;
import java.awt.image.Buffer
import java.io.IoException;
import java.io.File;
import javax.image
```

Thank you