**LAB # 2**

**OBJECTIVE**

To study control and iteration statements and math classes.

**Question:**

Write a program to solve quadratic equation using (if, else-if and else)

**Source Code:**

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| import java.lang.Math;  public class Quadratic {  public static void main(String[] args) {  int a=1,b=5,c=1;  double posroot=0;  double negroot=0;  posroot= (-b + Math.sqrt((b\*b)- (4\*a\*c)))/2\*a;  negroot = (-b - Math.sqrt((b\*b)- (4\*a\*c)))/2\*a;  System.out.println("The roots are "+posroot+ " and the other root is "+ negroot);  }  } |

**Output:**

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**Question:**

Write a program to generate Fibonacci hypothesis for 19 generations given below.

0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765

**Source Code:**

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| --- |
| import java.util.Scanner;  public class Fibonaccisequence {  public static void main(String[] args) {  // TODO code application logic here  Scanner obj=new Scanner (System.in);  System.out.println("Enter number of terms:");  int nterms=obj.nextInt();  int n1,n2,count;n1=0;n2=1;count=0;    if (nterms<=0){  System.out.println("please enter a positive number:");  }  else if (nterms==1){  System.out.println("Fibonacci sequence upto"+ nterms+":");  System.out.println(n1);  }  else{  System.out.println("Fibonacci sequence:");  while (count < nterms){  System.out.print(n1+ " ");  int nth = n1 + n2;  n1 = n2;  n2 = nth;  count ++;  }  }  System.out.println("");  }    } |

**Output:**

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**Question:**

Write a program to read salary of an employee and designate according to their salary using if-else ladder

**Source Code:**

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| import java.util.Scanner;  public class IfElseLadder {  public static void main(String[] args) {  Scanner obj=new Scanner(System.in);  System.out.print("Enter Your Salary:");  int sal=obj.nextInt();  if (sal >=25000 && sal<=35000){  System.out.println("Your designation is Research Assistant");  }  else if (sal >=36000 && sal<=50000){  System.out.println("Your designation is Junior Lecturer");  }  else if (sal >=51000 && sal<=65000){  System.out.println("Your designation is Lecturer");  }  else if (sal >=66000 && sal<=80000){  System.out.println("Your designation is Assistant Professor");    }  }    } |

**Output:**

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**Question:**

Write a Java program to read a number from the user and print whether it is positive or negative

**Source Code:**

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| import java.util.Scanner;  public class PosOrNeg {  public static void main(String[] args) {  Scanner obj=new Scanner (System.in);  System.out.print("Enter number:");  int num=obj.nextInt();    if(num<0){  System.out.println("The number is negative");  }  else{  System.out.println("The number is positive");  }  }  } |

**Output:**

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**Question:**

Write a program to read 3 integer values and print the greater and lesser number respectively

**Source Code:**

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| --- |
| import java.util.Scanner;  public class MinMax {  public static void main(String[] args) {  Scanner obj=new Scanner(System.in);  System.out.print("Enter First Number: ");  int a=obj.nextInt();  System.out.print("Enter Second Number: ");  int b=obj.nextInt();  System.out.print("Enter third Number: ");  int c=obj.nextInt();  if(a>b){  if(a>c){  System.out.println(a+" is greater");  if(c>b){  System.out.println("b is smaller");}  else{  System.out.println("c is smaller");  }  }  }  else if(b>c){  System.out.println(b+" is greater");  if(c>a){  System.out.println(a+" is smaller");  }  else{  System.out.println(c+" is smaller");  }  }  else{  System.out.println(c+" is greater");    if(b> a){  System.out.println(a+" is smaller");  }  else{  System.out.println(b+" is smaller");}    }  }  } |

**Output:**

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