NAME:ROHAN NYATI

SAP ID:500075940

ROLL NO. : R177219148

BATCH-5(AI&ML)

Experiment-2,3

1) Write a program to find the largest of 3 numbers.

Code ->

```
public class Largest_No{

  public static void main(String[] args) {

      int num1 = 8, num2 = 24, num3 = 29;

      if( num1 >= num2 && num1 >= num3)
          System.out.println(num1+" is the largest
Number");

      else if (num2 >= num1 && num2 >= num3)
          System.out.println(num2+" is the largest
Number");

      else
          System.out.println(num3+" is the largest
Number");
  }
  }
```

Output ->

```
29 is the largest Number
```

2) Write a program to add two number using command line arguments.

Code ->

```
public class CommandLineArg
{
	public static void main(String[] args)
	{
		int x,y,s;

		x=Integer.parseInt(args[0]);
		y=Integer.parseInt(args[1]);

		s=x+y;
		System.out.println("sum of " + x + " and " + y
+" is " +s);
	}
}
```

Output ->

```
sum of 67 and 34 is 101
```

3) Write a program to print Fibonacci series using loop.

Code ->

```
public class Fibonacci {

    public static void main(String[] args) {

        int count = 15, num1 = 0, num2 = 1;
        System.out.print("Fibonacci Series of "+count+"
numbers:");

        for (int i = 1; i <= count; ++i)
        {
            System.out.print(num1+" ");
            int sumOfPrevTwo = num1 + num2;
```

```
            num1 = num2;
            num2 = sumOfPrevTwo;
        }
    }
}
```

Output ->

```
Fibonacci Series of 15 numbers:0 1 1 2 3 5 8 13 21 34 55 89 144 233 377
```

4) Write a program to implement a command line calculator.

Code ->

```
import java.util.Scanner;
public class Calculator {

    public static void main(String[] args) {
         Scanner reader = new Scanner(System.in);
        System.out.print("Enter two numbers: ");
        double first = reader.nextDouble();
        double second = reader.nextDouble();

        System.out.print("Enter an operator (+, -, *, /):
");
        char operator = reader.next().charAt(0);

        double result;

        switch (operator) {
          case '+':
            result = first + second;
            break;

          case '-':
            result = first - second;
            break;

          case '*':
            result = first * second;
            break;
```

```
            case '/':
              result = first / second;
              break;
            default:
              System.out.printf("Error! operator is not
correct");
              return;
          }

          System.out.println(first + " " + operator + " " +
second + " = " + result);
        }
     }
```

Output ->

```
Enter two numbers: 24
8
Enter an operator (+, -, *, /): /
24.0 / 8.0 = 3.0
```

5) Write a program using classes and object in java.

Code ->

```
public class ClassesObject
{
    String name;
    String breed;
    int age;
    String color;
    public ClassesObject(String name, String breed, int
age, String color)
    {
        this.name = name;
        this.breed = breed;
        this.age = age;
        this.color = color;
    }
```

```
    public String getName()
    {
        return name;
    }

    public String getBreed()
    {
        return breed;
    }

    public int getAge()
    {
        return age;
    }

    public String getColor()
    {
        return color;
    }

    //Override
    public String toString()
    {
        return("Hello my name is "+ this.getName()+
                ".\nMy breed,age and color are " +
                this.getBreed()+"," + this.getAge()+
                ","+ this.getColor());
    }

    public static void main(String[] args)
    {
     ClassesObject Rook = new ClassesObject("Rook","German
Shepherd", 4, "Brown");
        System.out.println(Rook.toString());
    }
}
```

Output ->

```
Hello my name is Rook.
My breed,age and color are German Shepherd,4,Brown
```

6) Write a program to accept 10 student's marks in an array, arrange it into ascending order, convert into the following grades and print marks and grades in the tabular form. Between 40 and 50: PASS Between 51 and 75: MERIT and above: DISTINCTION

Code ->

```
import java.util.Scanner;
class Grades
{
public static void main( String [] args )
{
Scanner key = new Scanner(System.in);
System.out.println("Enter the number of students");
int n = key.nextInt();
Student student_list[] = new Student[ n ];
System.out.println("Enter the name and score of --- ");
for( int i = 0 ; i < n ; i++ )
{
System.out.println("Student - " + (i+1));
String name = key.next();
int score = key.nextInt();
student_list[i] = new Student( name , score );
}
for( int i = 0 ; i < n - 1 ; i++ )
{
for( int j = 0 ; j < n - i - 1 ; j++ )
{
if( student_list[j+1].score < student_list[j].score )
{
Student temp = student_list[j+1];
student_list[j+1] = student_list[j];
student_list[j] = temp ;
}
}
}
System.out.print("\nSorted List ---> \n" );
for( int i = 0 ; i < n ; i++ )
{
student_list[i].printInformation();
}
String status[]= { "Pass" , "Merit" , "Distinction" };
```

```
int current = 0 ;
System.out.print("\nFail - ");
for( int i = 0 ; i < n ; i++ )
{
if( (student_list[i].score >=40 && current == 0) ||
(student_list[i].score >=51 && current == 1 ) ||
(student_list[i].score >=75 && current == 2))
System.out.print("\n" + status[current++] + " - ");
System.out.print(" " + student_list[i].name);
}
System.out.println();
}
}
class Student
{
int score ;
String name;
public Student( String name , int score )
{
this.score = score ;
this.name = name;
}
void printInformation ()
{
System.out.println("name - " + this.name + " grade --> "+
this.score);
}
}
```

Output ->

```
C:\Users\Rohan\Desktop>javac Grades.java

C:\Users\Rohan\Desktop>java Grades
Enter the number of students
5
Enter the name and score of ---
Student - 1
rohan 99
Student - 2
robin 69
Student - 3
ravi 96
Student - 4
harsh 88
Student - 5
nihu 50

Sorted List --->
name - nihu grade --> 50
name - robin grade --> 69
name - harsh grade --> 88
name - ravi grade --> 96
name - rohan grade --> 99

Fail -
Pass -  nihu
Merit -  robin
Distinction -  harsh ravi rohan
```

7) Write a program to accept three digits (i.e. 0 - 9) and print all its possible combinations. (For example, if the three digits are 1, 2, 3 than all possible combinations are: 123, 132, 213, 231, 312, 321.)

Code ->

```
import java.util.Scanner;
class PossibleCombinations
{
     public static void main( String [] args )
     {
          Scanner key = new Scanner( System.in );
```

```
            System.out.println("Enter the three digits");
            char a = key.next().charAt(0);
            char b = key.next().charAt(0);
            char c = key.next().charAt(0);
            char arr[] = {a,b,c};
            System.out.println("Output:");
            for(int i = 0 ; i<3 ; i++){
                 for(int j = 0 ; j<3 ; j++){
                      for(int k = 0 ; k<3 ; k++){
                           if(i!=j && j!=k && k!=i)
                                System.out.println(arr[i]+"
"+arr[j]+" "+arr[k]);
                      }
                 }
            }
       }
}
```

Output ->

```
C:\Users\Rohan\Desktop>javac PossibleCombinations.java

C:\Users\Rohan\Desktop>java PossibleCombinations
Enter the three digits
3 7 9
Output:
3 7 9
3 9 7
7 3 9
7 9 3
9 3 7
9 7 3
```

8) Write a Java Program to accept 10 numbers in an array and compute the square of each number. Print the sum of these numbers.

Code ->

```
import java.util.Scanner;
```

```java
class SumOfSquares
{
     public static void main(String[] args)
     {
          int n=10,sum=0;
          Scanner s = new Scanner(System.in);
          int a[] = new int[n];
          for(int i=0; i <n; i++){
               a[i] = s.nextInt();
               sum = sum + (a[i] * a[i]);
          }
          System.out.println("Sum : "+sum);
     }
}
```

Output ->

```
C:\Users\Rohan\Desktop>javac SumOfSquares.java

C:\Users\Rohan\Desktop>java SumOfSquares
12
2
3
4
5
6
7
8
9
1
Sum : 429
```

9) Write a program to input a number of a month (1 - 12) and print its equivalent name of the month. (e.g., 1 to Jan, 2 to Feb. 12 to Dec.)

Code ->

```java
import java.util.Scanner;
class MonthName{

     public static void main(String[] args) {
```

```
Scanner sc = new Scanner(System.in);
System.out.print("Enter month's number: ");
int monthNumber;
monthNumber = sc.nextInt();
if (monthNumber == 1)
      System.out.println("January");
else if (monthNumber == 2)
      System.out.println("February");
else if (monthNumber == 3)
      System.out.println("March");
else if (monthNumber == 4)
      System.out.println("April");
else if (monthNumber == 5)
      System.out.println("May");
else if (monthNumber == 6)
      System.out.println("June");
else if (monthNumber == 7)
      System.out.println("July");
else if (monthNumber == 8)
      System.out.println("August");
else if (monthNumber == 9)
      System.out.println("September");
else if (monthNumber == 10)
      System.out.println("October");
else if (monthNumber == 11)
```

```
            System.out.println("November");
        else if (monthNumber == 12)
            System.out.println("December");
        else
            System.out.println("Invalid month.");
    }
}
```

Output ->

```
C:\Users\Rohan\Desktop>javac MonthName.java

C:\Users\Rohan\Desktop>Java MonthName
Enter month's number: 11
November
```

10) Write a program to find the sum of all integers greater than 40 and less than 250 that are divisible by 5.

Code ->

```
class Sum
    {
        public static void main(String[] args)
    {
        int sum=0;
        //for-loop for numbers 40-250
        for(int i=40 ;i<251 ;i++)
         {
              // condition to check if number should be
divided by 5
              if(i%5==0){
                //adding values of array so that total sum
can be calculated
                  sum=sum+i;
                  }
```

```
            }
        //final display output for the code
        System.out.println("the sum of intergers from 40
to 250 that are divisible by 5 : "+sum);
    }
}
```

Output ->

```
C:\Users\Rohan\Desktop>javac Sum.java

C:\Users\Rohan\Desktop>java Sum
the sum of intergers from 40 to 250 that are divisible by 5 : 6235
```