EXPERIMENT - 2

Tarun Madav Ainampudi

23BCE9846

1. Write a Java Program to implement single dimensional array of objects.

```java
import java.util.*;
class Car{
  private String name;
  private int mileage;
  Car(String name,int mileage)
  {this.name=name;
   this.mileage=mileage;   }
  protected String get_name(){return name;}
protected int get_mileage(){return mileage; }}
public class Ex_2_1 {
  public static void main(String[] args) {
    Car[] a=new Car[3];
    a[1]=new Car("Swift",30);
    a[2]=new Car("SwiftDzire",40);
    a[0]=new Car("Toyota",20);
    for(int i=0;i<a.length;i++){
      System.out.println(a[i].get_name()+":"+a[i].get_mileage());  }   }}
```

OUTPUT:

Toyota:20

Swift:30

SwiftDzire:40

2. Write a java program addition of 2 matrix using array.

INPUT:

```java
import java.util.*;
public class Ex_2_2{
   public static void main(String[] args) {
      Scanner in=new Scanner(System.in);
      double[][] a = new double[3][3];
for(int i=0;i<=2;i++){
   for(int j=0;j<=2;j++){
      System.out.printf("Enter the %dth row %d Element: ",i+1,j+1);
    a[i][j] = in.nextDouble();   }}
System.out.println("Enter the Elements for Second Matrix.");
double[][] b = new double[3][3];
for(int i=0;i<=2;i++){
   for(int j=0;j<=2;j++){
      System.out.printf("Enter the %dth row %d Element: ",i+1,j+1);
    b[i][j] = in.nextDouble();  }}
Addition(a,b); }
   public static void Addition(double[][]a,double[][]b){
      double c[][]=new double[3][3];
      for(int i=0;i<=2;i++){
         for(int j=0;j<=2;j++){
            c[i][j]=a[i][j]+b[i][j]; }}
   System.out.println(Arrays.deepToString(c));}}
```

Enter the 1th row 1 Element: 2

Enter the 1th row 2 Element: 3

Enter the 1th row 3 Element: 5

Enter the 2th row 1 Element: 4

Enter the 2th row 2 Element: 3

Enter the 2th row 3 Element: 4

Enter the 3th row 1 Element: 7

Enter the 3th row 2 Element: 8

Enter the 3th row 3 Element: 4

Enter the Elements for Second Matrix.

Enter the 1th row 1 Element: 12

Enter the 1th row 2 Element: 34

Enter the 1th row 3 Element: 65

Enter the 2th row 1 Element: 34

Enter the 2th row 2 Element: 32

Enter the 2th row 3 Element: 6

Enter the 3th row 1 Element: 78

Enter the 3th row 2 Element: 9

Enter the 3th row 3 Element: 56

[[14.0, 37.0, 70.0], [38.0, 35.0, 10.0], [85.0, 17.0, 60.0]]

3.Write a java program multiplication of 2 matrix using array

INPUT:

```java
import java.util.*;
public class Ex_2_3{
   public static void main(String[] args) {
      Scanner in=new Scanner(System.in);
      double[][] a = new double[3][3];
for(int i=0;i<=2;i++){
   for(int j=0;j<=2;j++){
      System.out.printf("Enter the %dth row %d Element: ",i+1,j+1);
    a[i][j] = in.nextDouble();
   }
}System.out.println("Enter the Elements for Second Matrix.");
double[][] b = new double[3][3];
for(int i=0;i<=2;i++){
   for(int j=0;j<=2;j++){
      System.out.printf("Enter the %dth row %d Element: ",i+1,j+1);
    b[i][j] = in.nextDouble();
   }
}
Multiplication(a,b);
   }
   public static void Multiplication(double[][]a,double[][]b){
      double c[][]=new double[3][3];
      for(int i=0;i<=2;i++){
         for(int j=0;j<=2;j++){
            c[i][j]=a[i][j]*b[i][j]; }}
   System.out.println(Arrays.deepToString(c)); }
}
```

Enter the 1th row 1 Element: 3

Enter the 1th row 2 Element: 4

Enter the 1th row 3 Element: 3

Enter the 2th row 1 Element: 5

Enter the 2th row 2 Element: 34

Enter the 2th row 3 Element: 2

Enter the 3th row 1 Element: 6

Enter the 3th row 2 Element: 7

Enter the 3th row 3 Element: 3

Enter the Elements for Second Matrix.

Enter the 1th row 1 Element: 5

Enter the 1th row 2 Element: 9

Enter the 1th row 3 Element: 6

Enter the 2th row 1 Element: 5

Enter the 2th row 2 Element: 3

Enter the 2th row 3 Element: 4

Enter the 3th row 1 Element: 5

Enter the 3th row 2 Element: 8

Enter the 3th row 3 Element: 8

[[15.0, 36.0, 18.0], [25.0, 102.0, 8.0], [30.0, 56.0, 24.0]]

4.**Write a Java Program to demonstrate String and all String function.**

INPUT:

```java
public class Ex_2_4 {
    public static void main(String[] args) {
    String s1="Java";
    String s2="Programming";
    String concat=s1.concat(" ").concat(s2);
    System.out.println("Result String : "+concat);
    int len=concat.length();
    System.out.println("String Length : "+len);
    char at=concat.charAt(5);
    System.out.println("Character at Index 5 : "+at);
    String ss=concat.substring(0,5);
    System.out.println("SubString : "+ss);
    String rs=concat.replace("Java","Python");
    System.out.println("Replaced String : "+rs);
    String us=concat.toUpperCase();
    System.out.println("String in UpperCase : "+us);
    String ls=concat.toLowerCase();
    System.out.println("String in LowerCase : "+ls);
    int index=concat.indexOf("Programming");
    System.out.println("Index of Programming Starts From : "+index);
    boolean bool=s1.equals(s2);
    System.out.println("Comparing Java and Programming : "+bool);
    }
}
```

Result String : Java Programming

String Length : 16

Character at Index 5 : P

SubString : Java

Replaced String : Python Programming

String in UpperCase : JAVA PROGRAMMING

String in LowerCase : java programming

Index of Programming Starts From : 5

Comparing Java and Programming : false