Experiment - 1.3

Name :- K. Prudhvi Sai Reddy

Section :- 21AIML-7 /A

Subject :- JAVA

UID :- 21BCS6286

Date :- 25-09-2022

Semester :- 3rd

Aim :- Write a program in java for find AxB where A is a matrix of 3x2 and B is a matrix of 2x3.

Program Code :-

```
Public class matrixMulhiplication {
Public static void main(String args[]){
int a[][] = {{1,1},{2,2},{3,3}};
int b[][] = {{1,1,1},{2,2,2}};
int c[][] = new int[3][3];
for(int i=0; i<3; i++){
for(int j=0; j<3; j++){
    c[i][j]=0;
  for(int k=0; k<2; k++)
   {
     c[i][j] += a[i][k]*b[k][j];
   }
System.out.print(c[i][j]+" ");
}
System.out.println();
}
}}
```

Output :-

3 3 3

6 6 6

9 9 9

Learning outcomes :-

1) Approach the programming task using technique learnt and write psuedocode.

2) Choose the right data representation format based on the requirement of the problem.

or

Experiment - 2.1

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Semester:- 3rd

Aim:- Write a program in Java with class Rectangle with the data fields, width, length, area and color. The length, width and area are of double type and colour is of String type. The methods are set_length(), set_width(), set_color() and find_area(). Create two object of Rectangle and compare their area and color if area and color same for the objects then display "matching Rectangles" otherwise display "Non-matching Rectongle".

Code:-

```
import java.util. Scanner;
class rect ;
double width, length, area;
 String color;
 Scanner s = new Scanner (System.in);
 Rect()
 { System.out.println (" Enter the length : ");
   length = S.next();
System.out.println (" Enter the breadth : ");
     width = S.next double();
System.out.println (" Enter the colour = ");
     color = S.next();
   area = length * bre width;
   system.out.println ("Area of rectangle : " + area);
```

```
Class demo
{
  Public static void main (String args[])
  {
     System.out.println ("First rectangle: ");
         Rect r1 = new rect();
         Rect r2 = new rect();
   · If (r1.area == r2.area && r1.color = r2.color)·
      System. out. println ("matching rectangle");
      else
       System. out. println ("Non matching rectangle");
   }
    }
```

Output :-

First Rectangle.

Enter length = 19.22

Enter width = 19.22

Enter color = Blue

Area of the rectangle = 124.884

Second Rectangle

Enter length = 19.22

Enter width = 19.33

Enter color = Blue

Area of rectangle = 124.993

Non-matching rectangle.

Learning outcomes:

1) learnt about functions

2) learnt about the class

3) learnt to implement the functions.

Experiment :- 2.2

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Subject :- JAVA

UID :- 21BCS56286
Date :- 25-9-22
Semester :- 3rd

Aim :- Write a program in java which implement interface student which has two methods. Display_Grade and Attendance for PG-Students and UG-Students

Code :-

```
interface Students
{
   void display_Grade();
   void display_attend();
}
class PG_Students implements Student
{
   String name, grade;
   int m1, m2, m3, attendance, total;
PG_Student (String name, int m1, int m2, int m3, int attendance)
{
   this.name = name;
   this.m1 = m1;
   this.m2 = m2;
   this.m3 = m3;
   this.attendance = attendance;
}
void display()
{ System.out.println ("name is " + name);
   System.out.println ("marks are " + m1 + " " + m2 + " " + m3);
}
```

```
Public void display-attend()
 {
   System.out.println (" the attendance is " + attendance);
 }
Public void display-grade() {
  total = m1+m2+m3;
if (total ≥250)
   { grade = "A"; } }
else if (total<250 & total ≥200)
  { grade = "B"; }
  else if (total <200 && total ≥100)
   { grade = "C"; }
   else
    { grade = "D"; }
  System.out.println (" the grade is " + grade );
 }
}
class UG_Students implement Student
  { String name, grade;
    int m1, m2, m3, attendance, total;
  UG_Student (String name, int m1, int m2, int m3, int attendance).
  {
    this.name = name;
    this.m1 = m1;
    this.m2 = m2;
    this.m3 = m3;
   this.attendance = attendance;
  }
```

```
void display( )
{
   System. out. println (" Name is " + name);
   System. out. println (" Marks are " + m1 + " " + m2 + " " + m3 );
}
Public void display_attend()
{
   System. out. println (" The attendance is " + attendance );
}
Public void display_grade ()
{
   total = m1 + m2 + m3 ;
if (total ≤ 300 && total >250)
   { grade = " A" ; }
else if (total ≤250 && total >200)
   { grade = " B" ; }
 else if (total ≤ 200 && total ≥ 100)
    { grade = " C" ; }
 else
      grade = "D";
 System. out. println (" The grade is " + grade );
  }
Class Student Demo {
  Public Static void main (String [ ] args ) :
  Pg_Student Pg = new PG_Student (" Prudhvi ", 100, 99, 99 , 95 );
    Pg. Display ( );
    Pg. Display_attend ( );
    Pg. display_grade ( );
UG_Student Ug = new UG_Student (" Sai ", 100, 100, 100, 90);
    Ug . display ( );
    Ug. display_atten ( );
    Ug. display_grade ( );
```

Output :-

Name is Prudhvi

marks are 100 99 99

attendence is 95

The grade is A

Name is Sai

The marks are 100 100 100

attendance is 90

The grade is A

learning outcomes :-

1) learnt how to use functions

2) learnt different functions and operations

3) Displayed the output.