classmate
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WEEK 6:

1) Develop a Java program to find the transpose of a given matrix of order m×n.

```
import java.util.Scanner;
public class Main
{
public static void main(String args[])
{
Scanner s=new Scanner(System.in);
int i,j;
System.out.println("Enter number of rows:");
int m=s.nextInt();
System.out.println("Enter number of columns:");
int n=s.nextInt();
int array[][]=new int[m][n];
System.out.println("Enter matrix:");
for(i=0;i<m;i++){
for(j=0;j<n;j++){
  array[i][j]=s.nextInt();}
 }
System.out.println("The above matrix before Transpose is");
for(i=0;i<m;i++){
for(j=0;j<n;j++){
System.out.println(array[i][j]+" ");
}
```

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```
System.out.println("");
}

System.out.println("The above matrix after Transpose is ");
for(i=0; i<n; i++)
 {
 for(j=0; j<m; j++)
 {
 System.out.println(array[j][i]+" ");
 }
 System.out.println("");
 }
 }
}
```

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:6:

2) Develop a java program which has the (only) class Circledemo that has members - radius, area and perimeter. Include methods to do the following.

a. accept the radius from the user
b. find area of the circle
c. find perimeter of the circle
d. Display all the details

```
import java.util.Scanner
class CircleDemo{
double radius;
double area;
double perimeter;

void accept() {
Scanner xx = new Scanner (System.in);
System.out.println("Enter radius");
radius = xx.nextDouble();
}

double ar(){
area = 3.14 * radius * radius;
return area;
}
```

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```
double pm(){
perimeter = 2 * 3.14 * radius;
return perimeter;
}

void display (){
System.out.println("Area of the circle is "+area);
System.out.println("Perimeter of the circle is "+perimeter);
  }
}

class Main {
public static void main(String ss[]){
 CircleDemo c = new CircleDemo();
 c.accept();
 c.ar();
 c.pm();
  c.display();
 }
}
```

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3) Develop a java program to create a class Actor with id, name, no_of_movies, no_of_years_exp. Calculate the average performance for each of the actor and print the name of the actor with highest average.

```
import java.util.Scanner
class Actor {
int id;
String name;
int no_of_movies;
int no_of_years_exp;
double avg_performance;
static String highest_name;

void accept()
{
Scanner xx = new Scanner (System.in);
System.out.println("Enter actor id - ");
id = xx.nextInt();
System.out.println("Enter actor name - ");
name = xx.next();
System.out.println("Enter no. of years of experience ");
no_of_years_exp = xx.nextInt();
}
```

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```
double avg(){
avg_performance = no_of_movies / no_of_years_exp;
return avg_performance;
}
String actorname()
{
return name; }
}

class Main {
public static void main (String args[]) {
Scanner xx = new Scanner (System.in);
double highest =0;
String actorname;
System.out.println ("Enter number of actors - ");
int n = xx.nextInt();
Actor a[] = new Actor [n];
for (int i = 0; i<n; i++)
{
a[i] = new Actor ();
a[i].accept();
a[i].avg ();
if (a[i].avg() > highest)
{
```

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```
        highest = a[i].avg();
        Actor.highest_name = a[i].name;
      }
    }
    System.out.println("Actor with highest experience is "+Actor.
    highest_name);
```

4) Develop a Java program to accept the values of a double array through command line. Display the sorted array.

```
class Main {
public static void main (String ss[]) {
  double [] a = new double [ss.length];
  for(int i=0; i<ss.length; i++) {
    a[i] = Double.parseDouble(ss[i]);
  }
  System.out.println("Original array:");
  for(int i=0; i<a.length; i++)
  {
    System.out.println(a[i]+" ");
  }
  System.out.println(" ");
}
```

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```
double temp=0.0;
for(int i=0; i<a.length; i++){
for(int j=0; j<a.length; j++){
    if(a[j] > a[j+1]){
     temp=a[j];
     a[j]=a[j+1];
     a[j+1]=temp;
     }
   }
}
System.out.println("Sorted array:");
 for(int i=0; i<a.length; i++){
   System.out.println(a[i]+" ");
    }
   }
  }
```

5) Design a java program to accept a double array. Create 2 more arrays - pos and neg. Check every element of full array and push the +ve numbers to pos array and negative no.s to neg array. Count the no. of +ve and -ves and 0's and display.

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```
import java.util.Scanner;
class ArrayMain {
public static void main (String ss[]) {
Scanner s = new Scanner (System.in);
System.out.println ("Enter number of elements : ");
int n = s.nextInt();
int i;
int p=0, ne=0, z=0;
double full[] = new double [n];
double pos[] = new double [n];
double neg [] = new double [n];
System.out.println ("Enter array elements : ");
for (i=0; i<n; i++)
{
full [i] = s.nextDouble (); }
for (i=0; i<n; i++) {
  if (full[i] > 0)
{ pos [p] = full[i];
  p++;
  }
else if (full[i] =0) {
  z++;
  }
else
```

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```
neg[ne] = full[i];
ne++;
}
}
System.out.println("Positive elements array :");
for(i=0; i<p; i++) {
System.out.print(pos[i] + " ");
}
System.out.println();
System.out.println("Negative elements array :");
for(i=0; i<ne; i++) {
System.out.print(neg[i] + " ");
}
System.out.println();
System.out.println("No. of positive elements : "+p);
System.out.println("No. of zero elements : "+z);
System.out.println("No. of negative elements :"+ne);
}
}
```

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6) Design a Java program to accept a string. Count and display the no. of vowels, constants and spaces in the string.

```
import java.util.Scanner
class CountMain {
public static void main (String args[]) {
int i, vowels=0, constants=0, spaces=0;
Scanner sc = new Scanner (System.in);
System.out.println ("Enter sentence ");
String s = sc.nextLine();
char str[] = s.toCharArray();
int n = str.length;
for (i=0; i<n; i++)
 {
if (str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u'
|| str[i]=='A' || str[i]=='E' || str[i]=='I' || str[i]=='O' || str[i]=='U')
{
 vowels++;
 }
else if ((str[i]>='a' && str[i]<='z') || (str[i]>='A' && str[i]<='Z'))
{
constants++;
}
else if (str[i]==' ')
```

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```
{
spaces ++;
}
System.out.println ("Vowels = " + vowels);
System.out.println ("Constants = " + constants);
System.out.println ("White spaces = " + wh spaces);
  }
}
```

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