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Assignment-2

11. write a program for matrix addition?

```
Scanner input = new Scanner(System.in);
int mat1[][] = {{1,2}, {5,3}};
int mat2[][] = {{2,3}, {4,1}};
int mat_sum[][] = new int[2][2];
for(int i=0; i<len; i++)
{
    for(int j=0; j<len; j++)
    {
    mat_sum[i][j] = mat1[i][j] + mat2[i][j];
    System.out.print(mat_sum[i][j] + "\t");
    }
    System.out.println();
}
```

12. write a program rectangle symbol pattern.

```
Class rightTriangle Pattern
{
    Public static void main(String args[])
    {
    int i,j,row=6;
    for(i=0; i<row; i++)
    {
        for(j=0; j<=i; j++)
        {
            System.out.print("* ");
        }
        System.out.println();
    }
}
```

13. write a program that would sort a list of names in alphabetics order Ascending or descending. choice get from that user?

```
Scanner input = new Scanner(System.in);
String arr[] = {"Banana", "Apple", "Carrot", "Peach", "Jack"};
int len = arr.length;
Char order = input.next().charAt(0);
if (order == 'A'){
    for (int i=0; i<len; i++){
    for(int j=i+1; j<arr.length; j++){
        String temp = arr[i];
        arr[i] = arr[j];
        arr[j] = temp;
    }}
    System.out.println(Arrays.toString(arr));
}
else if (order == 'D'){
    for (int i=0; i<len; i++){
        for (int j=i+1; j<arr.length; i++){
            if (arr[i].compare(arr[j]) <0){
                String temp = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
        System.out.println(Array.toString(arr));
```

14. write a program to matrix multiplications?

```
Scanner input = new Scanner(System.in);
    int r = input.nextInt();
    int c = input.nextInt();
    int mat1[][] = new int[r][c];
    int mat2[][] = new int[r][c];
    for (int i=0; i<r; i++)
    {
        for (int j=0; j<c; j++)
```

```
{
  mat1[i][j] = input.nextInt();
}
}
for (int i=0; i<r; i++)
{
  for (int j=0; j<c; j++)
  {
    mat2[i][j] = input.nextInt();
  }}
  int sum[][] = new int[r][c];
  for (int i=0; i<r; j++)
  {
    for (int j=0; j<c; j++)
    {
      for (int k=0; k<c; k++)
      {
        sum[i][j] = sum[i][j] + mat1[i][k] * mat2[k][j];
      }
      System.out.print(sum[i][j] + "\t");
    }
    System.out.println();
  }
```

15. Write a program to print the following pattern.

```
Scanner input = new Scanner(System.in);
System.out.print("Enter the number to be printed: ");
int a=input.nextInt();
System.out.print("Max number of the time printed: ");
int n=input.nextInt();
for (int i=1; i<=n; i++)
{
  for (int j=1; j<=i; j++)
  {
    System.out.print(a);
  }
  System.out.println();
}
for (int i=n-1; i>=1; i--)
{
  for (int j=1; j<=i; j++)
  {
    System.out.println();
  }
```

16. Write a program to print the special characters seperately and print number of special characters into last.

```
Scanner input = new Scanner(System.in);
String s = input.nextLine();
int len = s.length();
char a[] = new char[len];
int sp = 0;
for (int i = 0; i < len; i++)
{
  a[i] = s.charAt(i);
  if (a[i] >= 65 && a[i] <= 90 || a[i] >= 97 && a[i] <= 122 ||
      a[i] >= 48 && a[i] <= 57)
  {
  }
  else
  {
    sp++;
    System.out.print(a[i]);
  }
}
System.out.println("\n" + sp);
```

17. Write a program to print all the composite number between a and b?

```
Scanner input = new Scanner(System.in);
int a = input.nextInt();
int b = input.nextInt();
for (int i = a+1; i <= b; i++)
{
  if (i % j == 0)
    c++;
}
if (c > 2)
  System.out.print(i + " ");
```

18. Write a Program to print the inverted full pyramid Pattern?

```
Scanner input = new Scanner (System.in);
int n = input.nextInt();
for (int i = n; i >= 1; i--)
{
  for (int j = 0; j < n-i; j++)
  {
    System.out.print(" ");
  }
  for (int k = 1; k <= i; k++)
  {
    System.out.print("* ");
  }
  System.out.println();
}
```

19. Find the Mean, Meadium, Mode of the Array of numbers?

```
Scanner input = new Scanner (System.in);
int a[] = {16,18,27,16,23, 21, 19};
int len = a.length;
int sum = 0;
for (int i = 0; i < len; i++)
{
   sum = sum + a[i];
}
int mean = sum / len;
System.out.println("mean :" + mean);
for (int i = 0; i < len; i++)
{
   for (int j = i+1; j < len; j++)
   {
     if (a[i] > a[j])
     {
       int temp = a[i];
       a[i] = a[j];
       a[j] = temp;
     }
   }
}
for (int i = 0; i < len; i++)
{
  if (len % 2 == 0)
  {
    int mid = len / 2;
```

```
System.out.print("median: "+a[mid-1]);
break;
}
else.
{
int mid=(len+1)/2;
System.out.print(mid);
System.out.println("median:" a[mid-1]);
break;
}}
for (int i=0; i<len; i++)
{
for(int j=i+1; j<len; j++)
{
if (a[i] ==a[j])
{
System.out.println("mode :"+a[i]);
break;
}}
}
```

20. Find the factorial of n?

```
Scanner input = new Scanner (System.in);
int n = input.nextInt();
int fact =1;
for (int i=1; i<=n; i++)
{
fact = fact * i;
}
System.out.print(fact);
}
```