Course code : CSA0993
Course Name : Java programming

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1] Matrix addition :

```
import java.util.Scanner;
public class matrix {
    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];
    int len = mat1.length;
    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.println(mat_sum[i][j] + "\t");
        }
        System.out.println();
    }}
```

2] Ascending or Descending Order.

```
import java.util.Scanner;
public class ad{
    Scanner input = new Scanner (System.in);
    String arr[] = {"Banana};
```

```
int , len = arr.length ;
char order = input.next().charAt();
    if (order == 'A') {
        for (int i=0; i<len; i++) {
            for (int j= i+1; j< arr.length; j++) {
                if (arr[i].compareTO(arr[j])>0) {
                    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++) {
        if (arr[i].compareto(arr[j])<0) {
            String temp = arr[i];
            arr[i] = arr[j];
        }}}arr[j]= temp;
    System.out.println(Arrays.toString(arr));
}}
```

3[a] Matrix multiplication :

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

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

4] pattern program :-

```
import java.util.Scanner;
public class pattern {
    Scanner input = new Scanner(System.in);
    System.out.print("Enter the number to printed:");
    int x = input.nextInt();
    System.out.println("Max Number of time printed");
  for(int i=1; i<=n; i++){
      for(int j=1; j<=i; j++){
          System.out.println(x);}
    }
    System.out.println();
  }
  for(int i=n-1; i>=1; i--){
      for(int j=1; j<=i; j++){
          System.out.print(x);
      }
      System.out.println();
}}
```

6]

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

7]

```
import java.util.Scanner;
public class pattern{
Scanner input = new Scanner(System.in);
int n=input.nextInt();
for(int i=n;i>=1;i--){
    for(int j=0;j<n-1;j++){
        System.out.println("*");
    }
    System.out.println();
}}
```

```
import java.util.Scanner;
Public class C{
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.println(fact.);
}}
```

q]

```
import java.util.Scanner;
Public class pattern(){
Scanner input=new Scanner(System.in);
Char c=input.next().charAt(0);
int n=input.nextInt();
for(int i=1; i<=n; i++){
    for(int j=1; j<=i; j++){
        System.out.println(c);
    }
System.out.println();
}}
```

```
int sum = 0
for (int i = 0; i <= n * 2; i = i + 2) {
    sum = sum + a[i];
}
System.out.println ("\n Sum : " + sum);
```

10]

```
import java.util.Scanner;
public class AK {
Scanner input = new Scanner (System.in);
int m = input.nextInt ();
int n = input.nextInt ();
int k = input.nextInt ();
for (int i=m; i<=n; i = i + k+1) {
    System.out.print (i + " ");
}
```