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Assignment -2

1. write a program for matrix addition.

```
scanner input = new scanner (system.in);
int mat1 [ ] [ ] = { { 1, 2 }, { 3, 4 } };
int mat2 [ ] [ ] = { { 2, 3 }, { 4, 1 } };
int matsum [ ] [ ] = new int [2] [2];
int len=mat1.length;
for (int i = 0; i < len; i++) {
    for (int j = 0; j < len; j++) {
        matsum [i] [j] = mat1 [i] [j] + mat2 [i] [j];
    }
}
System.out.print (matsum [i] [j] + " ");
```

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2. write a program that would sort a list of names in alphabetical order Ascending or Descending.

```
scanner input = new scanner (system.in);
string arr [] = { "Banana", "Apple", "Carrot", "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;
        }
    }
}
```

3. system.out.println("array's costing (" + cost));

$$\text{arc}: \theta \text{ (radians)} = -\alpha' : \beta$$

but `int i = 0; i < len; i++`
`for (int i = 0; i < len;`

for (int j = i + 1; j < arr.length; j++) {
 if (arr[i] < arr[j]) compareTo(arr[i], arr[j]);
}

$$\arcsin z = \arcsin 2z;$$

an Σ ;) - temp.

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System.out.println("Answers to solving Pairs");

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3. Write a program for matrix multiplication?
Scanner input = new Scanner (System.in);
int n = input.nextInt();

```
int n = input.nextInt();
```

int n = INPUT.nextInt();

```
int c = input("Enter integer: ");
```

```
int mat[2][2];  
int arr[2][2];
```

$\text{int mat}^2 [3][2] = \text{new int } L$

```
int mat2[5][5] = {0};  
for (int i = 0; i < 5; i++)
```

for $cint i = 0; i < n; i$

for (int i = 0; i < j++);

for (int i = 0; i < c; i++)

mark $\Sigma_i \Sigma^0$] = input.nextInt();

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```
for (int i = 0; i < n; i++)
```

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for int j = 0; j < c; j + 1)

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$\sum \Sigma i[\Sigma j] = 0$
for (int k=0, k < c; k++)

$\sum \Sigma i[\Sigma j] = \sum \Sigma i[\Sigma j] + \text{matrix}[i][k] * \text{matrix}[k][\Sigma j];$

System.out.println("sum [\Sigma j] + " + ");

4. write a C program following pattern -

Scanner input = new Scanner (System.in);

System.out.print ("Enter the number to be printed: ");

int x = input.nextInt();

System.out.print ("max number of time printed: ");

int n = input.nextInt();

for (int i=1; i <= n; i++)

for (int j=i, j <= i; j++)

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System.out.print ("");

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System.out.print ("");

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for (int i=n-1; i >= 1; i--)

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for (int j=1; j <= i; j++)

5. Write a program to print the special characters separately and print number special characters in reverse?

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

6. Write a program to print all the composite numbers 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++) {
    int c = 0;
    for (int j = 1; j <= i; j++) {
        if (i % j == 0) {
            c++;
        }
    }
    if (c > 2) {
        System.out.print(i + " ");
    }
}
```

7. 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=i, kc=i; k>=1; k--)
        System.out.print(" ");
    System.out.println();
}
```

8. Find the mean, median, 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;
        }
    }
}
```

```

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

```

a 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 *= i;
}
```

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System.out.print(6abc);
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10. write a program to print the following pattern?

```
Scanner input = new Scanner(System.in);
char c = input.nextLine().charAt(0);
int len = input.nextInt();
for (int i = 1; i <= n; i++) {
    System.out.print(c);
}
System.out.println();
```