

CSA0914 - Programming In Java

- ① sum of Fibonacci input n=4 output =
- ② matrix addition (2x2)
$$\text{input} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \quad 2 = \begin{bmatrix} 3 & 4 \\ 2 & 1 \end{bmatrix}$$
- ③ pattern right angle triangle

Aim:- To write program for sum of fibonacci in Java

Pseudo code :-

Step-1:- enter the Input

Step-2:- Initialize Variables such that
first=0 second=1

Step-3:- if $n <= 0$ (choose positive integer)
 $n = 1$ ($\text{sum} = 0$)

Step-4:- apply the for loop condition

Step-5:- print the condition

Step-6:- end the program

Code:-
import java.*;
public class
public s

Scanner
System.out.

if $n <= 0$

System

{ else {

int f

if (

int

if (

for

}

Java for Raspberry Pi Test - I
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Code:-

```
import java.util.Scanner;
public class sumofFibonacci{
    public static void main
        (String[] args){
    Scanner sc = new Scanner(System.in),
    System.out.println("enter no. of
        terms");
    int n = scanner.nextInt();
    if n <= 0 {
        System.out.println("choose a
            positive integer");
    } else {
        int first = 0, second = 1;
        int sum = first + second;
        if (n == 1) {
            sum = 0;
        }
        for (int i = 3; i <= n; i++) {
            int next = first + second;
            sum += next;
            first = second;
        }
    }
}
```

```
    second = next;
    System.out.println("sum of first" + n,
                       "Fibonacci numbers" + sum);
Scanner.close();
```

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Output

Enter number of terms = 4

sum of fibonacci numbers =

$$0 + 1 + 1 + 2 \Rightarrow 4$$

②

Aim :- To write a program in
Java for matrix addition (2x2)

pseudo code :-

Step-1:- Start

Step-2:-

Step-3:-

Step-4:-

Step-5:-

Step-6:-

Step-7:-

Step-8:-

Code :-

Step-2 :- Initialize matrix 1

Step-3 :- Initialize matrix 2

" + n +
bers" + row); Step-4 :- Initialize sum matrix as
an empty

Step-5 :- For i from 0 to 1:

Step-6 :- For j from 0 to 1:

Step-7 :- Summatrix[i][j] =
matrix1[i][j] + matrix2
[i][j]

Step-8 :- Print sum matrix

Code :-

n in
import java.util.*;
(2x2) public class MatrixAddition{
public static void main(String[] args){

int[][] matrix1 = {{1,2},{3,4}};

int[][] matrix2 = {{3,4},{2,1}};

```

int[1][2] summatrix = new int[2][2];
③ Aim :- To
for( int i=0; i<2; i++ ){
    for( int j=0; j<2; j++ ){
        summatrix[i][j] = matrix1[i][j]
        + matrix2[i][j];
    }
}
for( int[] row: summatrix ){
    for( int elem: row ){
        System.out.print(elem + " ");
    }
}

```

$\begin{array}{l} \text{output} \\ \text{matrix1} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \quad \text{matrix2} = \begin{bmatrix} 3 & 4 \\ 2 & 1 \end{bmatrix} \\ \text{Summatrix} = \begin{bmatrix} 4 & 6 \\ 5 & 5 \end{bmatrix} \end{array}$

```
new int[2][2];
```

```
t){
```

```
array[i][j]
```

```
{
```

```
em + " ");
```

③

Aim :- To write a program for
right angle triangle in Java

Code :-

```
import java.util.*;  
public class Rightanglepattern{  
    public static void main(String[] args){  
        int n=5;  
        for(int i=1; i<=n; i++){  
            for(int j=1; j<=i; j++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

$$A^2 = \begin{bmatrix} 3 & 4 \\ 2 & 1 \end{bmatrix}$$

Output:-

```
*****  
 * * * *  
 * * * * *  
 * * * * * *  
 * * * * * * *
```