

### Output:

```
C:\csit\third sem Jonash\NM\  X  +  v
->Compiled by Jonash Chataut<-
->Eulers method for function f(x,y)=2x+y

Input initial values of x and y:0      1

Input x at which y is required:0.4

Input step-size h:0.1

Value of y at x=0.400000 is 1.592300

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Process exited after 5.663 seconds with return value 0
Press any key to continue . . . |
```

### Output:

```
C:\csit\third sem Jonash\NM\  X  +  v
->Compiled by Jonash Chataut<-
->Heun's method [f(x,y) = x^2+y]

Input initial values of x and y: 0      1

Input x at which y is required: 0.2

Input step-size h: 0.05

Value of y at A = 0.200000 is 1.224184

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Process exited after 19.45 seconds with return value 0
Press any key to continue . . .
```

### Output:

```
C:\csit\third sem Jonash\NM\  X  +  v
->Compiled by Jonash Chataut<-
->Taylor Series [f(x, y) = x + y]
Enter initial value of x (x0): 1
Enter initial value of y (y0): 1
Enter step size (h): 0.5
Enter number of steps: 4

Step-by-step values:
x          y
1.5000  2.375000
2.0000  4.921875
2.5000  9.373047
3.0000  16.918701

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Process exited after 8.149 seconds with return value 0
Press any key to continue . . . |
```

### Output:

```
C:\csit\third sem Jonash\NM\  X  +  v

->Compiled by Jonash Chataut<-
->Runge Kutta Method [f(x,y) = x^2 + y^2]

Input initial values of x and y: 0      0

Input x at which y is required: 0.4

Input step-size h: 0.2

Value of y at x= 0.400000 is 0.021360

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Process exited after 19.36 seconds with return value 0
Press any key to continue . . . |
```

### Output:

```
C:\csit\third sem Jonash\NM\  X  +  v

->Compiled by Jonash Chataut<-
->Solving System of Differential equation

Enter the initial point x: 0

Enter the value of y_1(x): 1

Enter the value of y_2(x): 1

Enter the step length: 0.1

Enter the point x at which y(x) is required: 0.5

Calculation of y_1(0.500000) and y_2(0.500000):

x          y_1(x)          y _2(x)
0.000000   1.000000       1.000000
0.100000   1.226000       1.222500
0.200000   1.517211       1.509198
0.300000   1.896075       1.900606
0.400000   2.396132       2.469704
0.500000   3.069613       3.359306

Do you want to approximate at another point?(y/n): n

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Process exited after 34.7 seconds with return value 0
Press any key to continue . . . |
```