

Simple MATLAB Programs

1. To find sum of two numbers

1. Open **MATLAB** software
2. **File > New > Blank m-file**
3. Type below program

```
a = input(' Enter value of a: ');  
b = input(' Enter value of b: ');  
  
c = a+b;  
disp(c);
```

2. Finding Area of the square

```
%Program to find area of a square  
  
L = input(' Enter length of square L: ');  
  
area = L * L;  
disp(' Area of square is: ');  
disp(area)
```

3. Finding Area of the rectangle

```
%Program to find area of a rectangle  
  
a = input(' Enter side length a: ');  
b = input(' Enter side length b: ');  
  
area = a * b;  
disp(' Area of rectangle is: ');  
disp(area);
```

4. Area of a triangle where three sides are given

```
%Area of a triangle with 3 sides
```

```
A = input(' Enter value of a: ');
```

```
A = input(' Enter value of b: ');
```

```
A = input(' Enter value of c: ');
```

```
S = (a+b+c)/2;
```

```
A = sqrt(s*(s-a)*(s-b)*(s-c));
```

```
disp(' Area of triangle is: ');
```

```
disp(A);
```

5. Find the area & perimeter of a square

```
% Program to find area & perimeter of square
```

```
L = input('Enter length of a square: ');
```

```
A = L*L;
```

```
P = 4*L;
```

```
disp(' Area of square is: ');
```

```
disp(A);
```

```
disp(' Perimeter of square is: ');
```

```
disp(P);
```

6. Calculating the average for 3 numbers

```
%Average of given 3 numbers
```

```
A = input(' Enter value of A: ');
```

```
B = input(' Enter value of B: ');
```

```
C = input(' Enter value of C: ');
```

```
Average = (A+B+C)/3;
```

```
disp(' Average of A, B, C is: ');
```

```
disp(Average);
```

7. Greatest of two numbers

```
%Program to find greatest of two numbers

A = input(' Enter value of A: ');
B = input(' Enter value of B: ');

if (A>B)
    disp(' A is Larger: ');
else
    disp(' B is Larger');
end
```

8. Interchange the value of two numbers

```
%Interchange values of two variables

a = input(' Enter value of a: ');
b = input(' Enter value of b: ');

c = a;
a = b;
b = c;

disp(' Values of a and b after swapping: ');
disp(' a = ');
disp(a);

disp(' b = ');
disp(b);
```

9. Calculate simple interest using the expression ($SI=PNR/100$)

```
% Calculate simple interest

P = input(' Enter Principal: ');
N = input(' Enter Time: ');
R = input(' Enter Rate of interest: ');

SI = (P*N*R)/100;

disp(' Simple interest is: ');
disp(SI);
```

10. Convert temperature from Fahrenheit to Celsius

```
%Convert Fahrenheit to Celsius  
  
F = input(' Enter Temp. in Fahrenheit: ');  
  
C = (F-32) * 5/9;  
  
disp(' Temp. in Celsius is: ');  
disp(C);
```

11. Draw a flowchart for computing factorial N, where $N! = 1 * 2 * 3 * \dots * N$

```
%Compute factorial of given number N  
  
N = input(' Enter value of N: ');  
F = 1;  
  
for i = 1 : N  
    F = F * i;  
end  
  
disp(' Factorial is: ');  
disp(F);
```

12. Find the Sum of First Five Natural Numbers

```
% Sum of 1st 5 natural numbers  
  
sum = 0;  
for count = 1 : 5  
    sum = sum + count;  
end  
  
disp(' Sum of 1st 5 numbers is: ');  
disp(sum);
```

13. Calculating sum of integers from 1 to 100

```
% Sum of integers from 1 to 100

sum = 0;
for count = 1 : 100
sum = sum + count;
end

disp(' Sum of integers from 1 to 100 is: ');
disp(sum);
```

14. To find the sum of n natural Numbers

```
%Sum of n natural numbers

N = input(' Enter value of n: ');

sum = 0;
for i = 1 : n
sum = sum + i;
end

disp(' Sum of n natural numbers is: ');
disp(sum);
```

15. Sum of squares of n natural numbers

```
% Sum of squares of n natural numbers

n = input(' Enter value of n: ');

sum = 0;
for i = 1 : n
sum = sum + i*i;
end

disp(' Sum of squares of integers up to n: ');
disp(sum);
```

16. To find the sum of all even numbers up to 'n'

```
%Sum of even numbers up to n  
  
n = input(' Enter value of n: ');  
  
sum = 0;  
for i = 0 : 2: n  
sum = sum + i;  
end;  
  
disp(' Sum of even numbers up to n: ');  
disp(sum);
```

17. To find Product of numbers up to N

```
%Product of numbers up to n  
  
n = input(' Enter value of n: ');  
  
prod = 1;  
for i = 1 : n  
prod = prod * i;  
end  
  
disp(' Product of numbers up to n: ');  
disp(prod);
```

18. Sum of first 50 odd numbers

```
%Sum of 1st 50 odd numbers  
  
sum = 0;  
n = 1;  
  
while(n<=99)  
sum = sum + n;  
n = n + 2;  
end  
  
disp(' Sum of 1st 50 odd numbers is: ');  
disp(sum);
```