Minimization
To find where a function attains its minimum on an interval we use the fmin command.

example
First we make a M-file.

```
************************************************
function w= f(x)
w=exp(-x^2+2*x) -.5;
************************************************
```

To find where f attains its minimum on [-1,3] go to the command window and type:

```
************************************************
xm=fmin('f(x)',-1,3)
************************************************
```

To find the minimum value type:

```
************************************************
f(xm)
************************************************
```

NOTE f(x) maximizes where -f(x) minimizes.To find the maximum value of f(x) on [-1,3]
type:

```
************************************************
xM=fmin('-f(x)',-1,3);
f(xM)
************************************************
```

To find the maximum of abs(f(x)) on [-1,3] type:

```
************************************************
xM=fmin('-abs(f(x))',-1,3);
abs(f(xM))
************************************************
```

ASSIGNMENT 2 :
Let
$h(x)=x^3-6*x^2+x$.

Graph h(x) on [-1,5] .
Find where h(x) maximizes on [-1,5] and its maximum value.
Find where h(x) minimizes on [-1,5] and its minimum value.