Solution

1. Prepare a script (`if_1pen.m`) that contains any two numbers A and B. Use `if` to test if A is greater than, less than or equal to B, and display it in the command window.

```
1  clear,clc
2
3  A=3
4  B=20
5  if A==B
6      disp('A is equal B')
7  elseif A>B
8      disp('A is greater than B')
9  else disp('B is greater than A')
10 end
```

Solution

```
>> if_1pen

A =
     3

B =
    20

B is greater than A
```

Solution

2. Plot function $f(x)$, for which:

$$f(x) = \begin{cases} -2x & x \leqslant 0 \\ x & 0 < x \leqslant 1 \\ x^2 & x > 1 \end{cases}$$

x is in the range $< -2, 3 >$. Use the `for` loop and the `if` commands. Create script (`if_2pen.m`).

```
1   clear,clc
2
3   x=-2:0.1:3;
4   f=[];
5   for i=1:length(x)
6       if x(i)⩽0
7           f(i)=-2*x(i);
8       elseif x(i)<1
9           f(i)=x(i)
10      else f(i)=x(i)^2
11      end
12  end
13  plot(x,f,'*-')
```

Solution