

Remember to indent the bodies of your IF-THEN statements and looping structures.

- 1) (2 pts) Enter the following commands into a script file and run it.

```
a = 1.1;
b = 2.2;
c = 3.3;
if(c == a+b)
    disp('c = a+b is true')
else
    disp('c = a+b is false')
end
```

Does it give the correct output? What do you think is the reason for this behavior?

- 2) (6 pts) Write a script that does the following:

- Asks the user to input three lengths a , b , and c
- Tests to determine if these lengths are capable of forming a triangle.
- If a triangle cannot be formed, an error message should be printed out. If (and only if) a triangle can be formed, your program should compute the area of the triangle using *Heron's formula*

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

where s is the semi-perimeter of the triangle

$$s = \frac{a+b+c}{2}.$$

Test your program with the 2 sets of data: $a = 4.1, b = 6.4, c = 10.1$; $a = 7.8, b = 12.0, c = 3.4$.

- 3) (3 pts) Look up the `floor` function to see what this does. Write a script that will ask the user input a number and determine whether or not the number is an integer. Test your script using the values -3 and 10.7.
- 4) (7 pts) Write a *single* MATLAB script that will compute the sums below:

a) $\sum_{i=1}^{10} i^2 + i$

b) $\sum_{i=10}^1 i^2 + i$ Your answer should agree with the value obtained for this sum from Mathematica, Maple or the Wolfram Alpha site.

c) $\sum_{i=1}^{20} \frac{i+1}{i}$

d) $\sum_{i=n}^{n^2} \sqrt{i}$. You should read the value of n from the keyboard. Test your program using $n = 8$.

e) $\sum_{i=1}^{15} \sum_{j=0}^i i + j + ij$