Day 9 -- Concept Questions

Name: _____ CM: _____

1. One of your colleagues has created a vector by running the following code scrap:

```
for m=1:5
    t(m)=m*2;
end
```

   a. Now you type `t(4)` in the command window. You should expect that this command will
      i. redefine the length of the vector t to 4
      ii. display 4*the entire vector t in the command window
      iii. display the first 4 values of the vector t in the command window
      iv. display the entire vector t with 4 digits in the command window
      v. display (in the command window) the fourth value of the vector t, which is _____
      vi. give an error (Explain_____)
      vii. none of the above (Explain_____)

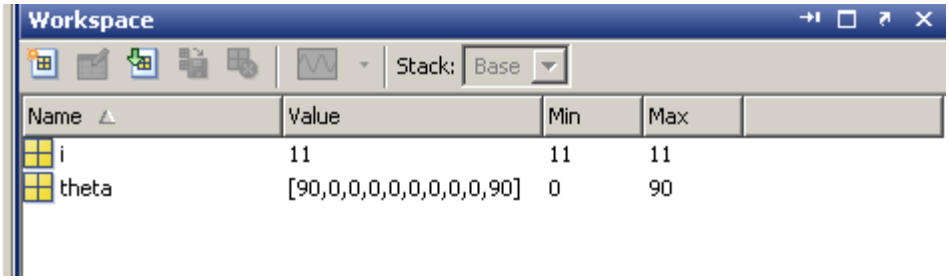
   b. Next, you type `t` in the command window. You should expect that this command will
      i. display the last value of the vector t in the command window
      ii. display the entire vector t in the command window
      iii. give an error (Explain_____)
      iv. none of the above (Explain_____)

(over)

2. Consider the following program:

```
clc
clear variables
i=1;
for theta=0:10:90
    theta(i)=theta;
    i=i+1;
end
```

It runs, but it doesn't produce the correct vector for theta-- when we look in the workspace we just see



There is something very fundamental wrong with the program-- what is it? Mark an appropriate change on the code.

3. Now consider this program, which is intended to print a three-line table of angles and their sines:

```
clc
clear variables
for i=1:3
    theta(i)=(i-1)*10;
    sin_theta(i)=sin(theta(i)*pi/180);
    fprintf(' %5.2f     %5.2f   \n',theta,sin_theta)
end
```

This also runs, but the output to the screen looks like

```
  0.00      0.00
  0.00     10.00
  0.00      0.17
  0.00     10.00
 20.00      0.00
  0.17      0.34
```

Once again, there is a fundamental error in the code. Fix the error in the code.