Midterm 1 Review

1. Come up with 3 ways to create the matrix

$$A = \begin{bmatrix} 1 & 3 & 5 \\ 20 & 16 & 12 \\ 3 & 7 & 8 \end{bmatrix}$$

2. What are 2 steps you can take to fix this script?

```
>> B = [];
>> C = [];
>> for ii = 1:4
       B(ii) = 2ii;
   end
>> C(ii) = B(ii)*4
```

3. (a) After running the following code, what is the value of x?

```
clear
x = 7;
if (x>3) && (x>5)
    x = 4;
elseif (x>3) && (x>=7)
    x = 6;
else
    x = 8;
end
```

   (b) How can you change the branching statements so that x has a value of 6?

4. Write a program in a script file, using flow control constructs, i.e. if ...elseif ..., to estimate the average points for a particular class. The grading policy is as follows:

   - average ≥ 90, grade = A
   - $80 \leq$ average < 90, grade = B
   - $70 \leq$ average < 80, grade = C
   - $60 \leq$ average < 70, grade = D
   - average < 60, grade = F

   The program asks the student to enter the first 3 grade scores (out of 100). The program then calculates the average and compares it with the grading policy described above. The final answer will include the average and the corresponding letter grade. Use the `fprintf` command to print out the results.