

**Electrical Engineering and Computer Science
CSE 1560**

Sample Midterm
Mon. Feb 31, staryear 2521

Answer all questions in the space provided

Make sure that you have 4 pages

Student Last Name: _____

Student Given Name: _____

Student Id. No: _____

Question	Value	Score
A	40	
B	60	

Question 1. [40 points]

1. [5 points] What is the main data type in Matlab.
2. [5 points] What is the role of end in Matlab as we discussed in class.
3. [5 points] What are the two roles of the semicolon (;) in Matlab
4. [5 points] What are the six relational operations in Matlab.
5. [5 points] What logical operator in Matlab accepts one argument.

6. [5 points] What command in Matlab produces random numbers, uniformly distributed between 0 and 1.

7. [5 points] What values are accepted as true in Matlab.

8. [5 points] What Matlab command/function produces formatted output.

Question 2.

[60 points]

1. [10 points] What is the bug with the following Matlab code

```
for i=1:10
    sum=0.0;
    sum=sum+i;
end;
```

2. [10 points]

The following Matlab code has a serious problem. What is it? (A is a square matrix)

```
if det(A)==0
    fprintf('Matrix A is non-invertible\n')
end;
```

3. [20 points]

Write a simple Matlab for-loop that adds up the squares of the elements of a vector V of length N. Variable SumOfV will contain the sum of the elements.

4. [20 points]

Write a simple Matlab script that computes the following function

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

Variable `fres` will contain the value of the function after the execution.