

To pass the test you must answer correctly to at least 8 of the following 10 questions.
Time: 30 minutes.

Name: _____

1. How can you print this column of integers using a for loop?

```
0
20
40
60
80
100
```

a.

```
>> for i = 0:20:100
    fprintf('%3d\n',i)
end
```

b.

```
>> for i = 0:(4*5):8^2
    fprintf('%3d\n',i)
end
```

c.

```
r=[0 20 40 60 80 100]
```

d.

```
>> for i = 1:20:100
    fprintf('%3d\n',i)
end
```

e. None of the above

2. Given the vector

```
>> x=rand(1,5)
x =
    0.6787    0.7577    0.7431    0.3922    0.6555
```

Compute the squared norm of this vector (that is the sum of the squares of its elements) by using a for loop.

```
>>
```

3. Consider the matrix A

A =

```
4   5   6
6   7   9
1   5   6
```

We want to transform it into

A =

```
4   5   6   4
6   7   9   6
1   5   6   1
```

Which one of the following commands is wrong?

a.

```
>> A(:,4) =A(:,1)
```

b.

```
>> A= [A(:, :) A(:,1)]
```

c.

```
>> A = [A(:,1) A(:,2) A(:,3) A(:,1)]
```

d.

```
>> A= [A A(:,1)]
```

e.

```
>> A=A + A(:,1)
```

4. Which of the following commands returns the result?

z =

```
16   25   36
```

a.

```
>> z=4:6.^2
```

b.

```
>> z=(4:6).^2
```

c.

```
>> z=2.^4:6
```

d.

```
>> z=2.^(4:6)
```

e.

None of the above.

5. Given the matrix

S =

```
    1    1    4
    4    3    7
    8    9    9
    7    3    3
```

Which command extracts the array

[1 3 9]

a.

```
>> S(1:3,2)
```

b.

```
>> S[2,1:3]
```

c.

```
>> S[1:3,2]
```

d.

```
>> S(2,1:3)
```

e. None of the above

6. Consider the vector

```
>> a =rand(6,1)
```

a =

```
0.1869
0.4898
0.4456
0.6463
0.7094
0.7547
```

Which of the following commands returns the following result?

"all values are below 0.9"

a.

```
>> if a<0.9
disp('all values are below 0.9')
else
disp('not all values are below')
end
```

b.

```
>> if a<0.9
disp('all values are below 0.9')
end
else
disp('not all values are below')
end
```

c.

```
>> if a<0.9
disp('all values are below 0.9')
disp('not all values are below')
end
```

d.

```
>> if a>0.9
disp('all values are below 0.9')
else
disp('not all values are below')
end
```

e. None of the above

7. Given the matrix:

x =

```
12    4    3
 1    5    9
 4    5    6
 7    8    9
```

What is the result of the command

```
>> x([1 2],[1 2])
```

```
>> ans =
```

8. How can you obtain the following vector?

`x =`

`9 7 5 3 1`

a.

`>> x = 1:-2:9`

b.

`>> x = 9:-2:1`

c.

`>> x = 9:2:1`

d.

`>> x = -9:2:-1`

e. None of the above

9. What would be the result of the following loop?

```
>> for i = 1:3
fprintf('I will not fail\n')
end
```

a.

`3`

b.

`i`

c.

```
I will not fail
I will not fail
I will not fail
```

d.

```
I will not fail
```

e. None of the above

10. Given the vector

```
>> v=randi(10,5,1)
```

```
v =
```

```
10  
2  
10  
10  
5
```

Provide a one line command that extracts all the elements of v that are greater than 8 and stores them in a vector w .

```
>>
```