Homework Quiz 3

Due 13 Oct at 6:00 **Points** 170 **Questions** 20
Available 6 Oct at 6:00 - 13 Oct at 6:00 **Time limit** None

This quiz was locked 13 Oct at 6:00.

Attempt history

	Attempt	Time	Score
LATEST	Attempt 1	40 minutes	170 out of 170

Score for this quiz: **170** out of 170
Submitted 10 Oct at 20:43
This attempt took 40 minutes.

Question 1

10 / 10 pts

Which of the following plots cos(x) for

$$\frac{-\pi}{4} \leq x \leq \frac{\pi}{2}$$

Correct!

- (●) `plot([-pi/4:0.001:pi/2],cos([-pi/4:0.001:pi/2]))`
- ( )
```
theta  = -pi/4 <= theta <= pi/2;
plot(theta, cos(theta);
```
- ( ) `plot(theta, cos(theta))`

```
for theta = -pi/4:0.001:pi/2
    plot(theta, cos(theta))
end
```

Nice!

Question 2

8 / 8 pts

Let data be a Matlab array of size 2x80. Which of the following plots second row vs. first row of data? (first row should be on the x-axis)

- plot(data(:,2),data(:,1))
- plot(data(:,1),data(:,2))
- plot(data(2,:),data(1,:))

Correct!

- plot(data(1,:),data(2,:))

Very good!

Question 3

3 / 3 pts

Does the following MATLAB expression evaluate to true or false?

```
(6 < 0) || (0 < 6)
```

Correct!

- True

False

Good job!

Question 4

3 / 3 pts

Does the following MATLAB expression evaluate to true or false?

```
~pi
```

True

Correct!

False

Nice!

Question 5

3 / 3 pts

Does the following MATLAB expression evaluate to true or false?

```
true >= false
```

Correct!

True

False

Well done!

Question 6

3 / 3 pts

Does the following MATLAB expression evaluate to true or false?

```
1 || 0 && 1
```

Correct!

- (●) True
- ( ) False

Good job!

Question 7

10 / 10 pts

Match each logical statement to an equivalent logical statement below.

Correct! **a ~= b** — (~(a==b))

Correct! **~(a || b)** — (~a && ~b)

Correct! **~(a < b)** — (a >= b)

Correct! **a && b || 0**

(a && b)

Well played!

Question 8

10 / 10 pts

What is printed out after the following code is run?

```
x = -2;
if x < 0
    if (abs(x) ~= 2)
        disp('a')
    else
        disp('b')
    end
else
    disp('c')
end
```

- a
- b

Correct!

- c

Great!

Question 9

10 / 10 pts

We want to make the vector f (defined below) using the following code:

```
1. x = -5 :0.1: 5;
2. f = x * x;
3. for ii = 1:length(x)
        if x(ii) <= 0
            f(ii) = -x;
        end
    end
```

What is the error in **line 1**?

$$f(x) = \begin{cases} x^2 & x > 0, \\ -x & x \leq 0 \end{cases} \qquad \text{for} \quad -5 \leq x \leq 5$$

Correct!

- (●) No error
- ( ) Vector of incorrect dimensions
- ( ) logic error
- ( ) Misplaced colon or semi-colon

Good!

Question 10

10 / 10 pts

We want to make the vector f (defined below) using the following code:

```
1. x = -5 :0.1: 5;
2. f = x * x;
3. for ii = 1:length(x)
        if x(ii) <= 0
            f(ii) = -x;
        end
    end
```

What is the error in **line 2**?

$$f(x) = \begin{cases} x^2 & x > 0, \\ -x & x \leq 0 \end{cases} \quad \text{for} \quad -5 \leq x \leq 5$$

Correct!

- (●) Incorrect matrix dimensions
- ( ) Logic error
- ( ) Misplaced colon or semi-colon

Nice!

Question 11

10 / 10 pts

We want to make the vector f (defined below) using the following code:

```
1. x = -5 :0.1: 5;
2. f = x * x;
3. for ii = 1:length(x)
        if x(ii) <= 0
            f(ii) = -x;
        end
    end
```

What is the error **in code block 3**?

$$f(x) = \begin{cases} x^2 & x > 0, \\ -x & x \leq 0 \end{cases} \quad \text{for} \quad -5 \leq x \leq 5$$

Correct!

- (●) Incorrect dimensions of assignment.
- ( ) no error.
- ( ) Misplaced semi-colon.

Good!

Question 12

10 / 10 pts

This code fragment is supposed to examine the variable temp and print a diagnostic message. A normal body temperature is roughly 98.7 degrees, while a temperature above 99.5 is usually considered a fever that can be treated at home. A temperature of 103 or more is a dangerous fever that requires medical attention.

For each blank below, choose the statement that should appear there.

```
 if ____________ (a)
    disp('Temperature below normal');
elseif _____________ (b)
    disp('Temperature normal');
elseif _____________ (c)
    disp('Temperature slightly high');
else
    disp('Temperature dangerously high');
end
```

Correct!

blank a temp <= 97.5

Correct!

blank b temp <= 99.5

Correct!

blank c temp <= 103.0

Good matching!

Question 13

10 / 10 pts

```
x = -5
while x < 10
    x = x + 1.5;
end
```

What is the value of x at the end of the loop?

Correct!

- (•) 10
- ( ) 0
- ( ) 9
- ( ) 11
- ( ) infinite loop

Well done!

Question 14

10 / 10 pts

Consider the code:

```
x = 2;
while x >= 0
    x = x -1;
end
```

What is the value of x at the end of the loop?

Correct!

- (selected) -1
- 0
- Inf
- - Inf
- infinite loop

Good!

Question 15

10 / 10 pts

```
A = [ 4 -1; 2 3];
s = size(A)
total  = 0;
for ii = 1:s(1)
    for jj = 1:s(2)
         total = total + A(ii,jj);
    end
end
```

What is the value of total at the end of this code?

Correct!

- (selected) 8
- 2
- 1
- 10

Sweet!

Question 16

10 / 10 pts

```
ires = 0
for ii = [1:3,7:10]
     ires = ires + 1;
end
```

What is the value of ires?

Correct!

- (•) 7
- ( ) 10
- ( ) 0
- ( ) 1

Nice!

Question 17

10 / 10 pts

```
ires = 0
for ii = 0:10
    ires = ires + 1;
end
```

Which of the following while loops is equivalent to the for loop above?

Correct!

```
ires = 0
while ires < 11
     ires = ires + 1;
end
```

```
ires = 0
 while ires < 10
      ires = ires + 1;
 end
```

```
ires = 0
 while ires <= 11
      ires = ires + 1;
 end
```

By golly, you've got it!

Question 18

10 / 10 pts

```
x = [ 3 2 7 2];
for ii = x
    fprintf('%g \n', ii)
end
```

What is printed after the above code is run?

Correct!

```
3
2
7
2
```

nothing

infinite loop

3

2

Good job!

Question 19

10 / 10 pts

```
x = [ 3 2 7 2];
L = length(x);
for ii = 1:L
    if x(ii) > 2
        x(end + 1) = ii
    end
end
```

What is the value of x at the end of the loop?

Correct!

- [3 2 7 2 1 3]
- [3 2 7 2]
- [3 2 7 2 3]
- error, can't access end + 1 element
- error, can't change vector x
- [3 2 7 2 1 2 3 4]
- infinite loop

Sweet!

Question 20

10 / 10 pts

Consider the following code:

```
ires = 2;
while ires <= 400
    ires = ires^2;
end
```

What is the value of ires at the end of the loop?

Correct!

65,536

orrect Answers

65,536 (with margin: 0)

Nice!

Quiz score: **170** out of 170