Final Test – Matlab (BE0B17MTB)

Score:

Name: **finalTestExampleEN**

A (20–19) b.		**D** (13–12)	
B (18–17) b.		**E** (11–10)	
C (16–14) b.		**F** (< 10 b.)	

1. Which variant is not appropriate to create a list of names?

(A) `s = ["Harry", "Hermione", "Ron"];`

(B)
```
s(1).name = 'Harry';
s(2).name = 'Hermione';
s(3).name = 'Ron';
```

(C) `s = ['Harry', 'Hermione', 'Ron'];`

(D) `s = {'Harry', 'Hermione', 'Ron'};`

A   B   C   D

2. How to get resolution of a main screen with running MATLAB?

(A) `screenRes = groot.MonitorPosition;`

(B) `screenRes = monitor('Resolution');`

(C) `screenRes = get(groot, 'ScreenSize');`

(D) `screenRes = get(uifigure, 'Size');`

A   B   C   D

3. What is the correct handle function declaration to the function `circLength`?

(A) `hndl = @(r) circLength;`

(B) `hndl = @circLength(r);`

(C) `hndl = @a=circLength(r);`

(D) `hndl = @circLength;`

```
function a = circLength(r)
    a = 2*pi*r;
end
```

A   B   C   D

4. Which values shows a gauge in a figure?

(A) Number of mouse wheel rotations.

(B) Width of the figure during changing its size.

(C) Always value 0.

(D) x-coordinate of mouse pointer position in the figure.

```
function GUI()
hFig = uifigure();
hGauge = uigauge(hFig, 'Value', 0);
hFig.WindowButtonMotionFcn = ...
    @myFunction;

    function myFunction(~, ~)
        hGauge.Value = ...
            hFig.CurrentPoint(1);
    end
end
```

A   B   C   D

5. Which command does not stop running timer `t`?

(A) `delete(t)`

(B) `stop(t)`

(C) `t.stop`

(D) `t(stop)`

A   B   C   D

6. Which command plots exponential function as a line?

(A) `semilogx(x, y)`

(B) `loglog(x, y)`

(C) `plot(x, y)`

(D) `semilogy(x, y)`

```
x = 0:0.1:10;
y = exp(x);
```

A   B   C   D

7. What is the correct entry for a callback function defined as `function myFun(x)` for the button `uibutton` (referenced in the variable `b`)?

(A) `b.ButtonPushedFcn = @(src, event) myFun(myVar);`

(B) `b.ButtonPushedFcn = @myFun(myVar);`

(C) `b.ButtonPushedFcn = @myFun(src, event, myVar);`

(D) `b.ButtonPushedFcn = {@myFun, myVar};`

<p style="text-align:center">A   B   C   D</p>

8. For which logical values of `a` and `b`, if the variable `c` does not exist, the command `a & b & c` does not end with an error?

(A) The command never ends with an error.

(B) `a = true; b = true;`

(C) `a = true; b = false;`

(D) The command always ends with an error.

<p style="text-align:center">A   B   C   D</p>

9. How can two vectors with the same dimensions be multiplied element by element?

(A) `u*v'`

(B) `u*.v`

(C) `u.*v`

(D) `u*v`

<p style="text-align:center">A   B   C   D</p>

10. What is the main advantage of the `cell` (cell array) usage?

(A) One may combine various data types.

(B) Lower memory requirements.

(C) Unlimited size.

(D) Faster data processing.

<p style="text-align:center">A   B   C   D</p>

11. Which command plots cos function with argument from 0 do 2π with 200 points?

(A) `plot(cos(0:2*pi,200))`

(B) `plot(cos(0:2*pi),200)`

(C) `plot(cos(0:1/200:2*pi))`

(D) `plot(cos(linspace(0,2*pi,200)))`

<p style="text-align:center">A   B   C   D</p>

12. If the variable $i = 1$ exists in the workspace, which command leads to a different value in the variable `a` than the others?

(A) `a = sqrt(-1) + i;`

(B) `a = 1 + 1i;`

(C) `a = 1 + 1*i;`

(D) `a = 1 + i*j;`

<p style="text-align:center">A   B   C   D</p>

13. How to declare a `case` inside the `switch` for more options?

(A) `case (opt1, opt2)`

(B) `case {opt1, opt2}`

(C) `case [opt1, opt2]`

(D) `case opt1, opt2:`

<p style="text-align:center">A   B   C   D</p>

14. Which function declaration with 2 input (`in1, in2`) and 1 output (`out1`) parameters is correct?

(A) `function (out1) = myFun(in1,in2)`

(B) `function [out1] = myFun(in1,in2)`

(C) `function [in1, in2] = myFun(out1)`

(D) `function (in1, in2) = myFun(out1)`

<p style="text-align:center">A   B   C   D</p>

15. Which command can replace the bottom block of code?

(A) `w = v.^(1:N)`

(B) `w = arraysum(v)`

(C) `w = cumsum(v)`

(D) `w = sum(v)`

```
N = 5;
v = randi(10, 1, N);
```
```
w = zeros(size(v));
for n = 1:N
    for m = 1:n
        w(n) = w(n) + v(m);
    end
end
```

A   B   C   D

16. How can you delete the first row of matrix **A**?

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

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

(C) `A{1, :} = []`

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

A   B   C   D

17. Which command swaps the columns of matrix **A** (the first will be the last, the second will be the penultimate, ...)?

(A) `A = A(:, end:-1:1)`

(B) `A = A(end:-1:1, :)`

(C) `A = A'`

(D) `A = A(end:1:1, :)`

A   B   C   D

18. Which command changes color of shown line from black to blue?

(A) `hLine.Visible = 'b'`

(B) `set(hFig.Children, 'LineColor', 'b')`

(C) `set(hAx.Children, 'Color', 'blue')`

(D) `hLine.Parent.Color = [0 0 1]`

```
hFig = figure();
hAx = axes('Parent', hFig);
hLine = line('Parent', hAx);
```

A   B   C   D

19. Which command terminates `for` or `while` loop?

(A) `return`

(B) `continue`

(C) `stop()`

(D) `break`

A   B   C   D

20. Which command allocates a matrix of logical values "1"?

(A) `ones()`

(B) `boolean()`

(C) `logical()`

(D) `true()`

A   B   C   D