MATLAB Basics Module Quiz Total points 46/52 ❓

The respondent's email (**amlali98eg@gmail.com**) was recorded on submission of this form.

46 of 52 points

✓ In an "if" statement, what is the purpose of the "else" clause? *   1/1

○ a) To create a loop

○ b) To define a default case

◉ c) To execute an alternative block of code when the condition is not met   ✓

○ d) To print text

✓ How many times will the following for loop execute? *   1/1
for i = 1:5
end

○ a) 0 times

○ b) 1 time

◉ c) 5 times   ✓

○ d) Infinite times

✓ What is the key difference between a "for" loop and a "while" loop in   *1/1
   MATLAB?

   ○ a) A "for" loop is used for functions, while a "while" loop is used for variables.

   ◉ b) A "for" loop executes a fixed number of times, while a "while" loop continues   ✓
      until a condition is met.

   ○ c) There is no difference; they can be used interchangeably.

   ○ d) A "for" loop is faster than a "while" loop.

✓ What is the purpose of the "break" statement in a "for" loop? *   1/1

   ○ a) To start the loop over

   ◉ b) To end the loop prematurely   ✓

   ○ c) To increment the loop counter

   ○ d) To pause the loop temporarily

✓ MATLAB is primarily used for word processing. *   1/1

   ○ a) True

   ◉ b) False   ✓

✓ MATLAB supports the development of standalone desktop applications. *   1/1

⊙ a) True   ✓

○ b) False

✕ In a structure, how can you access the data stored in a specific field? *   0/1

○ a) Using a cell array

⊙ b) Using the "struct" keyword   ✕

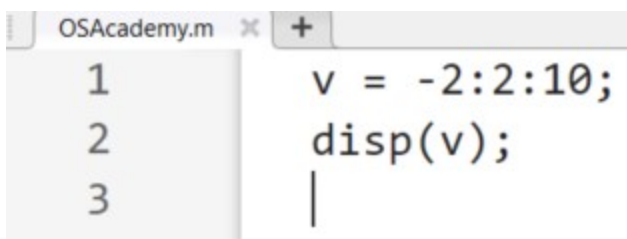○ c) By specifying the field name in parentheses

○ d) By using square brackets

Correct answer

⊙ c) By specifying the field name in parentheses

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ✕  +
1    v = -2:2:10;
2    disp(v);
3    |
```

◉ a) [-2, 0, 2, 4, 6, 8, 10]   ✓

○ b) [-2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

○ c) [-2, 4, 10]

○ d) An error occurs

✓ In MATLAB, the plot() function is used for 3D data visualization. *   1/1

○ a) True

◉ b) False   ✓

✓ What data type can a cell array hold? *   1/1

○ a) Numeric data

○ b) Strings

◉ c) Mixed data types   ✓

○ d) None of the above

✗   Which MATLAB function is used to create a sequence of numbers in   *0/1
logarithmically spaced intervals?

○   a) logarithm()

◉   b) linspace()   ✗

○   c) logspace()

○   d) exponential()

Correct answer

◉   c) logspace()

✓   The zeros() function in MATLAB is used to create a matrix filled with   *1/1
ones.

○   a) True

◉   b) False   ✓

✓   What is the correct way to create a row vector in MATLAB? *   1/1

○   a) rowVector()

◉   b) [1 2 3]   ✓

○   c) createRowVector()

○   d) (1, 2, 3)

✓   Which part of a function definition specifies the output of the function? *   1/1

○   a) Input arguments

○   b) Function name

◉   c) Output arguments   ✓

○   d) Comments

✓   o concatenate two matrices vertically, which function should be used? *   1/1

◉   a) vertcat()   ✓

○   b) addmatrices()

○   c) combine()

○   d) concatmatrices()

✓   Which MATLAB function is used to create a matrix of ones with a   *1/1
    specified number of rows and columns?

○   a) matrixOnes()

○   b) eye()

◉   c) ones()   ✓

○   d) createOnesMatrix()

✓ Which MATLAB function is used to create a linearly spaced vector   *1/1
   between two values?

○ a) logspace()

◉ b) linspace()   ✓

○ c) concatenate()

○ d) interpolate()

✓ In a switch statement, what is the purpose of the "case" keyword? *   1/1

○ a) To specify a variable

○ b) To define a default case

◉ c) To identify a code block to execute   ✓

○ d) To end the switch statement

✓ In a switch statement, what happens if none of the "case" conditions   *1/1
   match the "switch" expression?

◉ a) The code under the "otherwise" case is executed.   ✓

○ b) An error occurs.

○ c) The switch statement continues indefinitely.

○ d) The code stops executing.

✓ The save() function in MATLAB is used to create a new file. *   1/1

○ a) True

◉ b) False   ✓

✓ In the context of MATLAB, what does "Model-Based Development" refer   *1/1
   to?

○ a) Creating 3D models for animations

◉ b) Developing software models of systems   ✓

○ c) Designing physical prototypes

○ d) Building mathematical models for weather forecasting
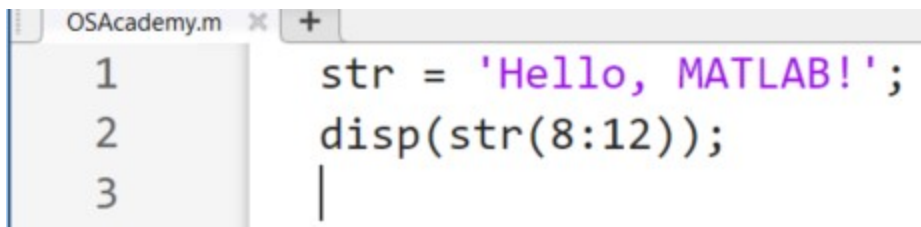
✓ MATLAB allows you to create and use functions. *   1/1

◉ a) True   ✓

○ b) False

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ×  +
1    str = 'Hello, MATLAB!';
2    disp(str(8:12));
3    |
```

○ a) Hello

◉ b) MATLA   ✓

○ c) !

○ d) An error occurs

✓ In MATLAB, you can use the rand() function to generate random numbers *1/1
with a specified range.

◉ a) True   ✓

○ b) False

✕   What does MBD stand for? *   0/1

○   a) Model-Based Development

◉   b) Model-Based Design   ✕

○   c) Modern Business Development

○   d) Mathematical Business Design

Correct answer

◉   a) Model-Based Development

✕   How can you access the second element of a cell array named "myCell"? *   0/1

○   a) myCell{1}

○   b) myCell(1)

◉   c) myCell(2)   ✕

○   d) myCell{2}
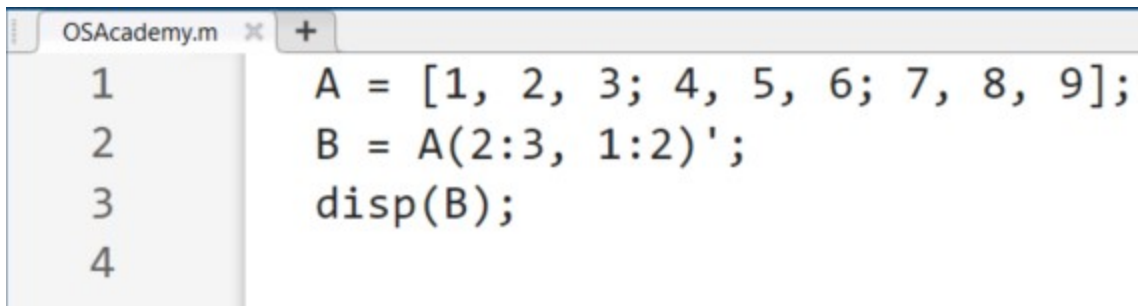
Correct answer

◉   d) myCell{2}

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m    ×    +
1    A = [1, 2, 3; 4, 5, 6; 7, 8, 9];
2    B = A(2:3, 1:2)';
3    disp(B);
4
```

🔘 a) [4, 7; 5, 8]   ✓

⚪ b) [1, 4; 2, 5]

⚪ c) [5, 4; 8, 7]

⚪ d) An error occurs

✗ The while loop in MATLAB is used for conditional execution of a block of   *0/1
statements.

⚪ a) True

🔘 b) False   ✗

Correct answer

🔘 a) True

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ×  +
1    A = [1, 2, 3; 4, 5, 6; 7, 8, 9];
2    B = A(2:3, 1:2);
3    disp(B);
4    |
```

○ a) [2, 3; 5, 6]

○ b) [1, 2; 4, 5]

◉ c) [4, 5; 7, 8]   ✓

○ d) [2, 5; 3, 6]

✓ What is the purpose of the eye() function in MATLAB? *   1/1

○ a) To create a matrix filled with zeros

○ b) To generate a random number

◉ c) To create an identity matrix   ✓

○ d) To perform complex mathematical calculations

✓ Which of the following is a specialized matrix function in MATLAB? *   1/1

◉ a) ones()   ✓

○ b) email()

○ c) playAudio()

○ d) sendData()

✓ In a MATLAB structure, data is stored in: *   1/1

○ a) Cells

◉ b) Fields   ✓

○ c) Arrays

○ d) Functions

✓ What is the primary purpose of using cell arrays in MATLAB? *   1/1

○ a) Storing numbers

○ b) Storing only text

◉ c) Storing data of mixed types   ✓

○ d) Displaying images

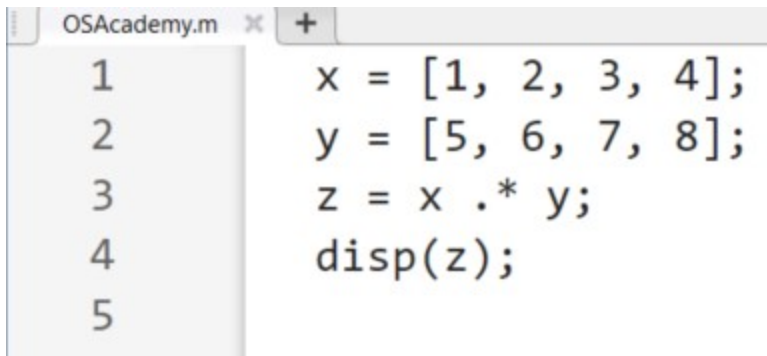✓ In MATLAB, the command history can be accessed using the up and down arrow keys.   *1/1

◉ a) True   ✓

○ b) False

✓ What is the primary purpose of the MATLAB Command Window? *   1/1

○ a) To display images

◉ b) To execute commands and interact with MATLAB   ✓

○ c) To compose and send emails

○ d) To play audio files

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ✕  +
1    x = [1, 2, 3, 4];
2    y = [5, 6, 7, 8];
3    z = x .* y;
4    disp(z);
5
```

⦿ a) [5, 12, 21, 32]   ✓

○ b) [1, 2, 3, 4]

○ c) [5, 6, 7, 8]

○ d) [6, 12, 21, 32]

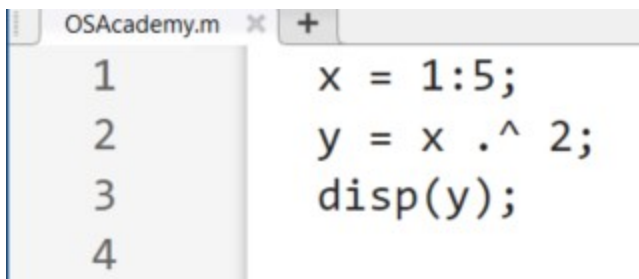---

✓ The if condition in MATLAB is used to create loops. *   1/1

○ a) True

⦿ b) False   ✓

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ×  +
1    x = 1:5;
2    y = x .^ 2;
3    disp(y);
4
```

○ a) [1, 2, 3, 4, 5]

◉ b) [1, 4, 9, 16, 25]   ✓

○ c) [1, 3, 5, 7, 9]

○ d) [1, 8, 27, 64, 125]

✓ What is the primary purpose of the break statement in MATLAB? *   1/1

○ a) To end the program

○ b) To continue to the next iteration of a loop

◉ c) To exit a loop prematurely   ✓

○ d) To execute a specific block of code

✓ Which keyword is used to define a MATLAB function? *   1/1

○ a) func

○ b) def

◉ c) function   ✓

○ d) create

✓ What is the purpose of an "if" statement in MATLAB? *   1/1

○ a) To create loops

○ b) To define functions

◉ c) To make decisions   ✓

○ d) To print text

✓ The legend() function in MATLAB is used to generate a plot. *   1/1

○ a) True

◉ b) False   ✓

✓ **What is the output of the following MATLAB code? ***   1/1

```
OSAcademy.m   +
1       a = 3;
2       b = 5;
3       c = a + b;
4       disp(['The result is: ', num2str(c)]);
5       |
```

○ a) 8

◉ b) The result is: 8   ✓

○ c) An error occurs

○ d) The result is: 35

✓ What does the horzcat() function do in MATLAB? *   1/1

◉ a) Concatenates two matrices horizontally   ✓

○ b) Calculates the square root of a number

○ c) Converts text to lowercase

○ d) Sorts elements in an array

✓   In MATLAB, which keyword is used to check for multiple conditions in an   *1/1
     "if" statement?

    ○ a) elif

    ◉ b) elseif   ✓

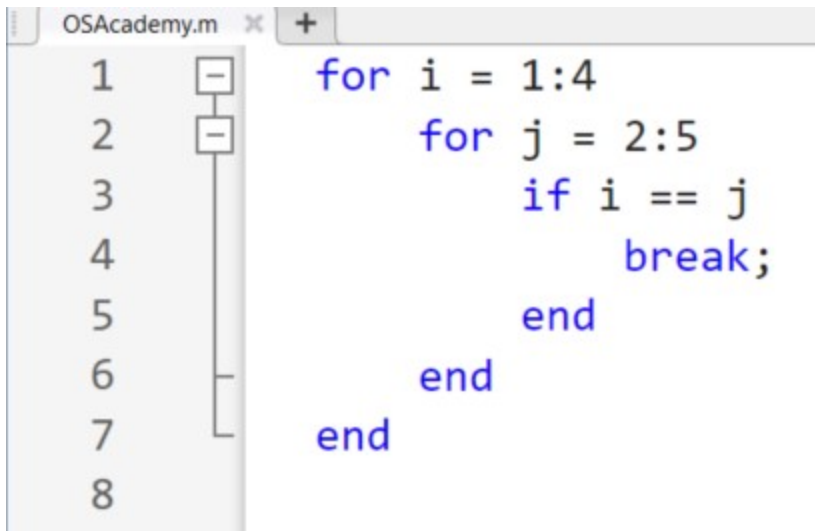   ○ c) else

    ○ d) ifelse

✓   How is the loop counter typically incremented in a "while" loop? *   1/1

    ○ a) Automatically by MATLAB

    ○ b) It is not incremented; "while" loops use different control structures.

    ◉ c) Manually within the loop   ✓

    ○ d) Incrementing is not required in a "while" loop.

✕   **How many times will the following for loop execute in MATLAB?** *   0/1

```
OSAcademy.m  ✕   +
1    ⊟      for i = 1:4
2    ⊟          for j = 2:5
3                    if i == j
4                        break;
5                    end
6                end
7            end
8
```

◉ a) 1   ✕

◯ b) 4

◯ c) 3

◯ d) 2

Correct answer

◉ b) 4

✓   The MATLAB workspace displays variable names, formats, and allows for *1/1
        _____ saving.

◉ a) Data   ✓

◯ b) Code

◯ c) Workspace

◯ d) Functions

✓ What does AUTOSAR stand for? *   1/1
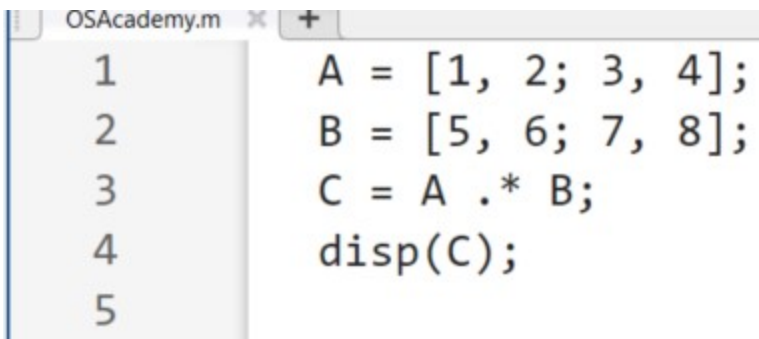
○ a) Automatic System for Robotic Automation

○ b) Automobile Standardization Organization for Robotic Systems

◉ c) Automotive Open System Architecture   ✓

○ d) Automated System for Automotive Repairs

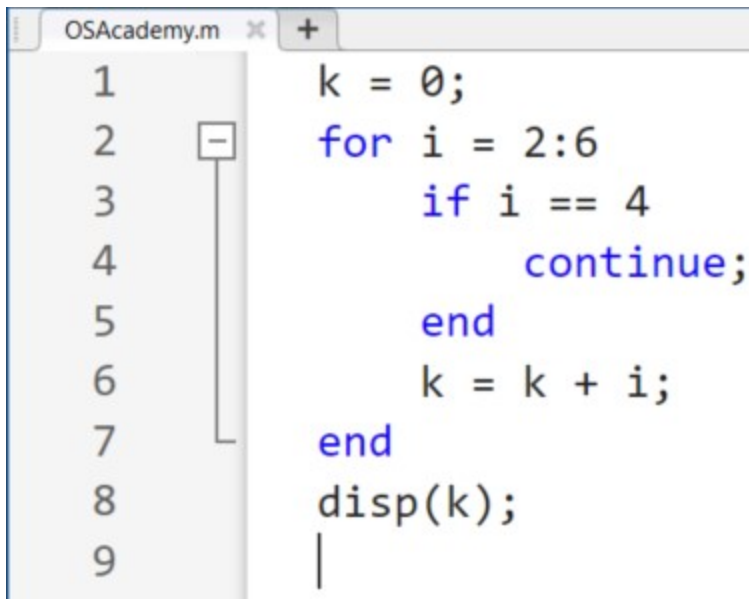✓ What is the output of the following MATLAB code? *   1/1

```
OSAcademy.m  ×  +
1    A = [1, 2; 3, 4];
2    B = [5, 6; 7, 8];
3    C = A .* B;
4    disp(C);
5
```

◉ a) [5, 12; 21, 32]   ✓

○ b) [1, 2; 3, 4]

○ c) [5, 6; 7, 8]

○ d) [4, 12; 21, 32]

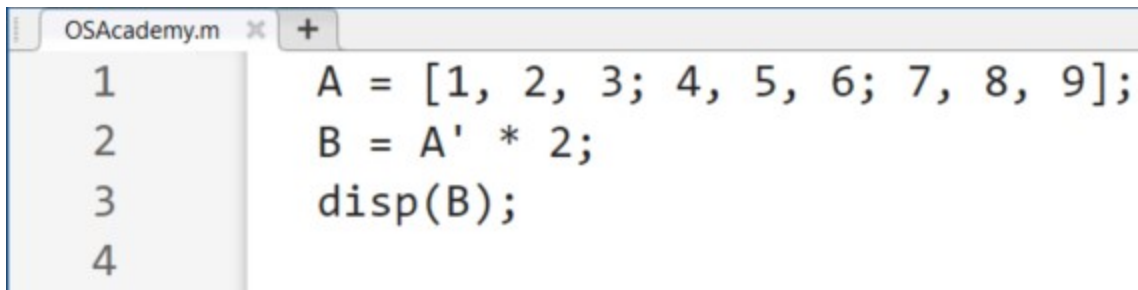✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ×   +
1        k = 0;
2        for i = 2:6
3            if i == 4
4                continue;
5            end
6            k = k + i;
7        end
8        disp(k);
9        |
```

○ a) 11

○ b) 12

○ c) 13

◉ d) 16   ✓

✓ **What is the output of the following MATLAB code?** *   1/1

```
OSAcademy.m  ×  +
1    A = [1, 2, 3; 4, 5, 6; 7, 8, 9];
2    B = A' * 2;
3    disp(B);
4
```

◉ a) [2, 8, 14; 4, 10, 16; 6, 12, 18]   ✓

○ b) [1, 2, 3; 4, 5, 6; 7, 8, 9]

○ c) [2, 4, 6; 8, 10, 12; 14, 16, 18]

○ d) An error occurs

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