

Kelas : Kecerdasan Buatan

1.

The screenshot displays a Windows 10 desktop environment. The primary focus is the Visual Studio Code editor, which is open to a file named 'TicTacToe.cs'. The code is written in C# and implements a Tic-Tac-Toe game. It includes a 3x3 board array, a list of players ('X' and 'O'), and a game loop that handles player input and game state updates. The output console at the bottom of the editor shows the game state after several moves, indicating that 'X' has won. The taskbar at the bottom of the screen shows the Start button, task view, and several open applications including Visual Studio Code, File Explorer, and the Task View app. The system tray on the right shows the date and time as 10/10/2023, 10:10:10 AM.

```

1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace TicTacToe
8  {
9      class Program
10     {
11         static void Main()
12         {
13             Console.WriteLine("Tic Tac Toe Game");
14             Console.WriteLine("Player 1: X, Player 2: O");
15             Console.WriteLine("Enter 0-8 to place your mark (0-8)");
16             Console.WriteLine("Enter -1 to quit");
17             Console.WriteLine("Enter -2 to restart");
18             Console.WriteLine("Enter -3 to exit");
19
20             int[] board = {0,0,0,0,0,0,0,0,0};
21             int player = 1;
22             int move;
23             while (true)
24             {
25                 Console.WriteLine("Player {0}'s turn", player);
26                 move = int.Parse(Console.ReadLine());
27                 if (move == -1)
28                     break;
29                 if (move == -2)
30                     Restart();
31                 if (move == -3)
32                     Exit();
33                 Place(move, player);
34                 player = (player == 1) ? 2 : 1;
35                 CheckWin();
36             }
37         }
38
39         static void Place(int move, int player)
40         {
41             Console.WriteLine("Player {0} places {1} at {2}", player, (player == 1 ? "X" : "O"), move);
42             board[move] = (player == 1 ? "X" : "O");
43         }
44
45         static void CheckWin()
46         {
47             if (board[0] == board[1] == board[2] ||
48                 board[3] == board[4] == board[5] ||
49                 board[6] == board[7] == board[8] ||
50                 board[0] == board[3] == board[6] ||
51                 board[1] == board[4] == board[7] ||
52                 board[2] == board[5] == board[8])
53             {
54                 Console.WriteLine("Player {0} wins!", (board[0] == "X" ? 1 : 2));
55                 return;
56             }
57             if (board.All(c => c != 0))
58             {
59                 Console.WriteLine("Tie game!");
60                 return;
61             }
62         }
63
64         static void Restart()
65         {
66             Console.WriteLine("Restarting game...");
67             board = new int[9];
68             player = 1;
69             Console.WriteLine("Game restarted. Enter 0-8 to place your mark (0-8)");
70             Console.WriteLine("Enter -1 to quit");
71             Console.WriteLine("Enter -2 to restart");
72             Console.WriteLine("Enter -3 to exit");
73         }
74
75         static void Exit()
76         {
77             Console.WriteLine("Exiting game...");
78             Environment.Exit(0);
79         }
80     }
81 }

```

Output Console:

```

Tic Tac Toe Game
Player 1: X, Player 2: O
Enter 0-8 to place your mark (0-8)
Enter -1 to quit
Enter -2 to restart
Enter -3 to exit
Player 1's turn
0
Player 2's turn
1
Player 1's turn
2
Player 2's turn
3
Player 1's turn
4
Player 2's turn
5
Player 1's turn
6
Player 2's turn
7
Player 1's turn
8
Player 1 wins!

```

System tray: 10/10/2023, 10:10:10 AM

2.

The screenshot shows a Windows 10 desktop with a taskbar at the bottom. The taskbar includes the Start button, a search bar, and several pinned application icons: File Explorer, Edge, and a terminal window. The terminal window is open, displaying the output of a Python script. The script is a simple addition program that prompts the user for two numbers and calculates their sum. The output shows the user entering '10' and '20', and the program correctly calculating the sum as '30'.

```

C:\Users\Aldy\Documents>python3 C:\Users\Aldy\Documents\Python\test1.py
10
20
30

```

The screenshot shows a Windows 10 desktop environment. The top taskbar includes the Start button, a search bar, and several pinned application icons: File Explorer, Edge, and a code editor. The code editor, titled 'Untitled: Jupyter', displays a Python script with the following code:

```

1 # Import necessary libraries
2 import numpy as np
3 import pandas as pd
4 import matplotlib.pyplot as plt
5
6 # Load the dataset
7 data = pd.read_csv('data/heart.csv')
8
9 # Display the first few rows of the dataset
10 print(data.head())
11
12 # Calculate the mean and standard deviation of the 'age' column
13 age_mean = data['age'].mean()
14 age_std = data['age'].std()
15
16 # Print the mean and standard deviation of the 'age' column
17 print(f"Mean age: {age_mean}, Standard deviation: {age_std}")
18
19 # Calculate the correlation between 'age' and 'chol'
20 correlation = data['age'].corr(data['chol'])
21
22 # Print the correlation coefficient
23 print(f"Correlation between age and chol: {correlation}")
24
25 # End of script

```

Below the code editor, a terminal window is open, showing the execution of the script. The output is as follows:

```

C:\Users\user> python script.py
Mean age: 43.745588235294116, Standard deviation: 11.96227766016838
Correlation between age and chol: -0.021616255141821

```

The Windows taskbar at the bottom shows the system clock as 10:10 AM on 10/10/2023. The taskbar also includes icons for File Explorer, Edge, and a code editor. The Windows logo is visible on the left side of the taskbar.

The screenshot shows a Windows 10 desktop with a taskbar at the bottom. The taskbar includes the Start button, a search bar, and several pinned application icons: File Explorer, Microsoft Edge, Visual Studio Code, and the Windows Command Prompt. The Windows Command Prompt is currently active, displaying the output of a C++ program. The output shows the calculation of the average of five numbers (1, 2, 3, 4, 5) and the resulting average value of 3. The background of the desktop is a dark blue gradient with a faint grid pattern.

```

C:\Users\Aldy> g++ 1.cpp
C:\Users\Aldy> ./1.exe
Masukkan data ke-1: 1
Masukkan data ke-2: 2
Masukkan data ke-3: 3
Masukkan data ke-4: 4
Masukkan data ke-5: 5
Jadi angka terbesar dari lima bilangan adalah 5

```

6.

```

def factorial(n):
    result = 1
    for i in range(1, n + 1):
        result *= i
    return result

n = int(input("Enter a number: "))
print(factorial(n))

```

Execution output:

```

Enter a number: 5
5

```

7.

```

def add_matrices(mat1, mat2):
    rows = len(mat1)
    cols = len(mat1[0])
    result = []
    for i in range(rows):
        row = []
        for j in range(cols):
            row.append(mat1[i][j] + mat2[i][j])
        result.append(row)
    return result

def main():
    mat1 = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]
    mat2 = [[2, 3, 4], [5, 6, 7], [8, 9, 10]]
    result = add_matrices(mat1, mat2)
    print("Result:")
    for row in result:
        print(row)

if __name__ == "__main__":
    main()

```

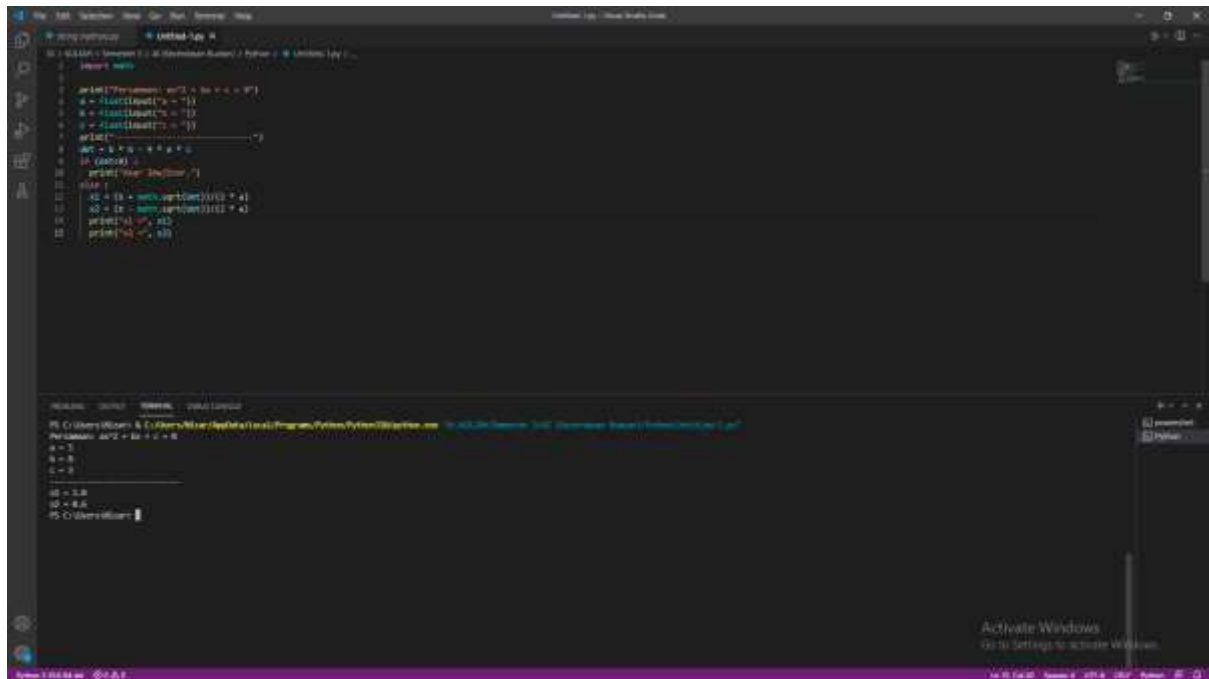
Execution output:

```

Result:
[3, 5, 7]
[9, 11, 13]
[15, 17, 19]

```

8.



```

1 # Program to calculate the perimeter and area of a rectangle
2 import math
3
4 # Define the dimensions of the rectangle
5 a = float(input("Enter the length (a): "))
6 b = float(input("Enter the width (b): "))
7 c = float(input("Enter the height (c): "))
8
9 # Calculate the perimeter and area
10 perim = 2 * a + 2 * b + c
11 ar = (a * b)
12
13 # Print the results
14 print("Perimeter: %.2f" % perim)
15 print("Area: %.2f" % ar)
16
17 # Main function
18 def main():
19     a = float(input("Enter the length (a): "))
20     b = float(input("Enter the width (b): "))
21     c = float(input("Enter the height (c): "))
22     perim = 2 * a + 2 * b + c
23     ar = (a * b)
24     print("Perimeter: %.2f" % perim)
25     print("Area: %.2f" % ar)
26
27 # Call the main function
28 main()

```

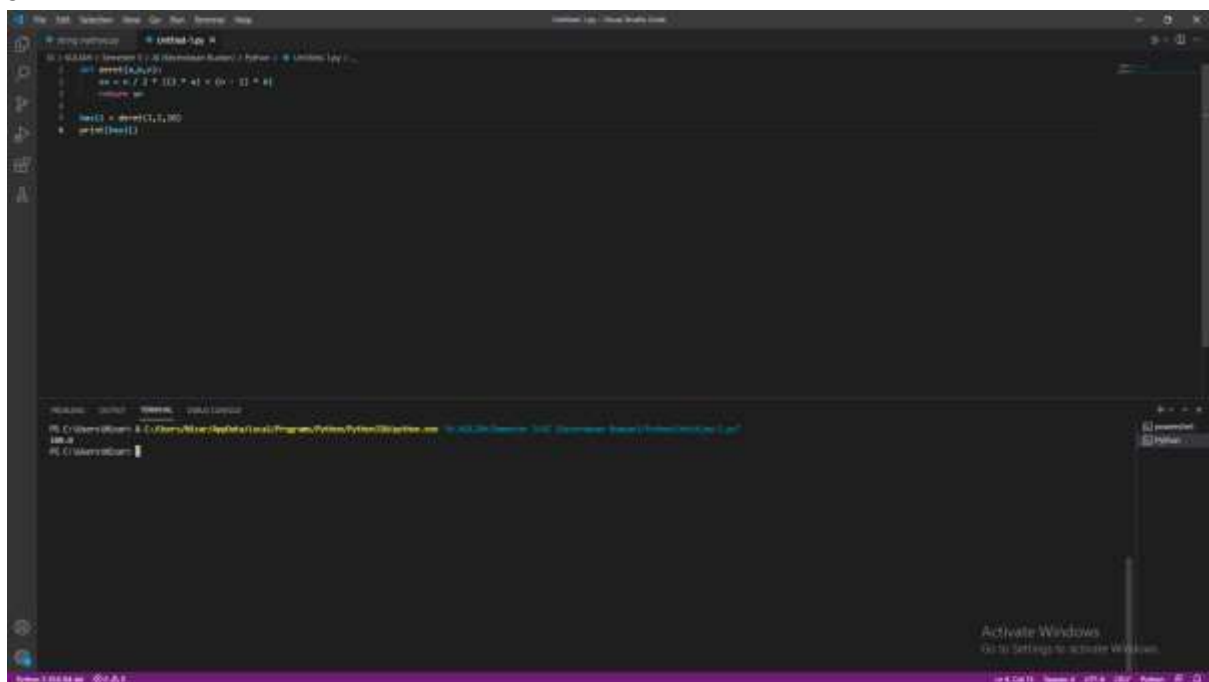
Output:

```

Enter the length (a): 5
Enter the width (b): 3
Enter the height (c): 2
Perimeter: 16.00
Area: 6.00

```

9.



```

1 # Program to calculate the area of a circle
2 import math
3
4 # Define the radius of the circle
5 r = float(input("Enter the radius (r): "))
6
7 # Calculate the area of the circle
8 ar = math.pi * r ** 2
9
10 # Print the result
11 print("Area: %.2f" % ar)
12
13 # Main function
14 def main():
15     r = float(input("Enter the radius (r): "))
16     ar = math.pi * r ** 2
17     print("Area: %.2f" % ar)
18
19 # Call the main function
20 main()

```

Output:

```

Enter the radius (r): 5
Area: 78.50

```