

Python Mega Projects

Mega Project 1 - Simple Calculator

Python code:

```
# Simple Calculator by Ilyan khan serial number: 20
while True:
    num1=input("Enter first number: ")
    if num1=='q':
        break
    num2=int(input("Enter second number: "))
    choice=input("Enter operation: (+,-,*,/) ")
    if choice=='+':
        print("The addition of ",num1,"and",num2," is ",int(num1)+num2,"\n")
    elif choice=='-':
        print("The subtraction of ",num1,"and",num2," is ",int(num1)-num2,"\n")
    elif choice=='*':
        print("The multiplication of ",num1,"and",num2," is "
",int(num1)*num2,""\n")
    elif choice=='/':
        print("The division of ",num1," and ",num2," is ",int(num1)/num2)
```

Output:

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows files in the 'WEEK1' folder, including 'class 1.py', 'class 2 assignment.png', 'class 2 assignment.py', 'class 3.py', 'class 3 loops.py', 'class 4 assignment.py', 'class 4.py', 'class 5 lists.py', 'class 5_random_library.py', and 'Project_calculator.py'.
- Code Editor:** Displays the Python code for a simple calculator. The code uses user input for two numbers and an operation (+, -, *, /). It handles each operation separately and prints the result.
- Terminal:** Shows the execution of the code. Three runs are visible:
 - Run 1: Input 1, 2, +. Output: The addition of 1 and 2 is 3.
 - Run 2: Input 2, 3, -. Output: The subtraction of 2 and 3 is -1.
 - Run 3: Input 3, 4, *. Output: The multiplication of 3 and 4 is 12.
- Status Bar:** Shows the current file is 'Project_calculator.py', line 18, column 4, and the Python version is 3.13.7.
- Bottom Right:** A 'Build with Agent' panel is open, showing a progress bar and the message "Build successful".

Mega Project 2 - Random Number Guessing Game

Python code:

```
# A simple random number guessing game by Ilyan khan Serial number: 20
import random
secret_number= random.randint(1,100)
print("I have selected a random number between 1 to 100. Can you guess it?")
attempts=0
while True:
    guess = int(input("Enter your Guess: "))
    attempts +=1
    if guess < secret_number:
        print("The number is higher than your guess. Try again.\n")
    elif(guess>secret_number):
        print("The number is lower than your guess. Try again.\n")
    else:
        print("Congratulations! You've guessed the correct number
in",attempts,"attempts.")
        break
```

Output:

The screenshot shows a code editor interface with the following details:

- File Explorer:** Shows a folder structure for "WEEK1" containing files like "calculator.png", "class1.py", "class2_assignment.png", "class2_assignment.py", "class2.py", "class3.py", "class3_loops.py", "class3.py", "class4_assignment.py", "class4_4.py", "class5_lists.py", "Digital Wallet.png", "Project_random_library.py", "Project_calculator.py", "Project_digital_wallet.py", and "Project_random_nbr_game.py".
- Code Editor:** The main pane displays the Python code for the random number guessing game.
- Terminal:** The bottom pane shows the terminal output of running the script:

```
L$ python -u "/home/ilyan/Study Material/Python-Learning/week 1/Project_random_nbr_game.py"
I have selected a random number between 1 to 100. Can you guess it?
Enter your Guess: 90
The number is lower than your guess. Try again.

Enter your Guess: 50
The number is higher than your guess. Try again.

Enter your Guess: 60
The number is higher than your guess. Try again.

Enter your Guess: 70
The number is higher than your guess. Try again.

Enter your Guess: 80
The number is higher than your guess. Try again.

Enter your Guess: 86
The number is higher than your guess. Try again.

Enter your Guess: 88
The number is higher than your guess. Try again.

Enter your Guess: 90
Congratulations! You've guessed the correct number in 7 attempts.
```
- Build with Agent:** A sidebar on the right provides AI integration options.

Mega Project 3 - Digital wallet

Python code:

```
# Digital Wallet Project by Ilyan khan Serial Number:20
amount_list=[]
reason_list=[]
while True:
    print("Digital wallet options: ")
    print("1. Add amount and reason.\n2. View Total amount and reasons.\n3.
Exit.")
    choice=int(input("Enter your choice: "))
    if choice==1:
        amount=int(input("Enter the amount to add: "))
        reason=input("Enter the reason for this amount: ")
        amount_list.append(amount)
        reason_list.append(reason)
        print("Amount added successfully.\n")
    elif(choice==2):
        total=sum(amount_list)
        print("Total amount in wallet: ",total)
        print("Reasons for amounts added: ",reason_list)
    elif(choice==3):
        print("Exiting the digital wallet.")
        break
    else:
        print("Invalid choice. Please try again.\n")
```

Output:

The screenshot shows a terminal window with the following session:

```
laptop:~/Study Material/Python-Learning/week 1$ python ./Project_digital_wallet.py
Digital wallet options:
1. Add amount and reason.
2. View Total amount and reasons.
3. Exit.

Enter your choice: 1
Enter the amount to add: 100
Enter the reason for this amount: hello
Amount added successfully.

Digital wallet options:
1. Add amount and reason.
2. View Total amount and reasons.
3. Exit.

Enter your choice: 2
Total amount in wallet: 100
Reasons for amounts added: ['hello']

Digital wallet options:
1. Add amount and reason.
2. View Total amount and reasons.
3. Exit.

Enter your choice: 4
Invalid choice. Please try again.

Digital wallet options:
1. Add amount and reason.
2. View Total amount and reasons.
3. Exit.

Enter your choice: 3
Exiting the digital wallet.
```