

AI ASSISTED CODING LAB TEST– 1

SET C

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Batch :18

Question :

2. . (2 Marks) Given a list of books with their genres, write a Python function that recommends books based on a user's preferred genre. Use the Cursor AI tool. Use few shot prompting.

Prompt:

Given a list of books with their genres, write a Python function that recommends books based on a user's preferred genre

Code :

```
def recommend_books(books, preferred_genre):  
    """  
    Recommend books based on user's preferred genre.  
  
    Args:  
        books (list of dict): Each dict has 'title' and 'genre' keys.  
        preferred_genre (str): The genre to filter books by.  
  
    Returns:  
        list: Titles of books matching the preferred genre.  
    """  
    return [book['title'] for book in books if book['genre'].lower() ==  
preferred_genre.lower()]  
  
# Example usage  
books = [  
    {'title': 'The Hobbit', 'genre': 'Fantasy'},  
    {'title': '1984', 'genre': 'Dystopian'},  
    {'title': 'To Kill a Mockingbird', 'genre': 'Classic'},  
    {'title': 'Harry Potter', 'genre': 'Fantasy'},  
    {'title': 'Brave New World', 'genre': 'Dystopian'}]
```

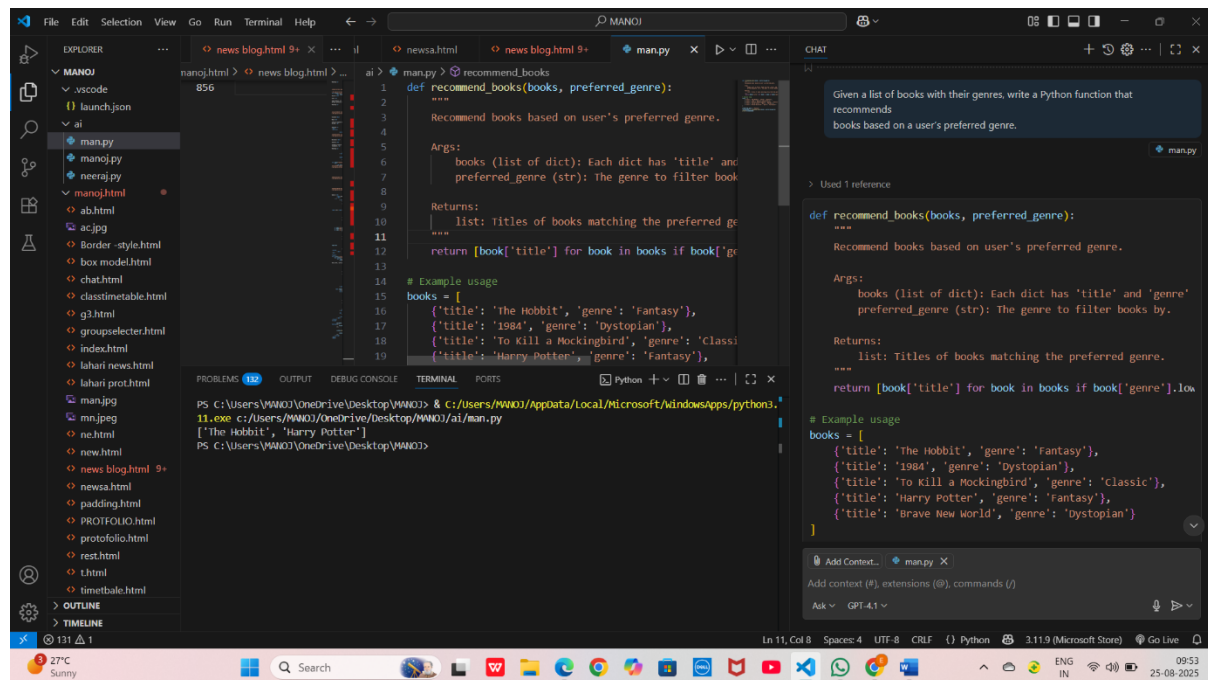
```

]

preferred_genre = 'Fantasy'
recommended = recommend_books(books, preferred_genre)
print(recommended)

```

output :



Question:

3. (2 Marks) Write a Python program that generates all prime numbers between start and end (both inclusive) entered by the user. Use GitHub Copilot along with VS Code. Use few shot prompting

Prompt :

Write a Python program that generates all prime numbers between start and end (both inclusive) entered by the user.

Code:

```

def is_prime(n):
    if n < 2:
        return False
    for i in range(2, int(n**0.5) + 1):
        if n % i == 0:

```

```

        return False
    return True

start = int(input("Enter start value: "))
end = int(input("Enter end value: "))

primes = [num for num in range(start, end + 1) if is_prime(num)]
print("Prime numbers between", start, "and", end, "are:", primes)

```

output :

The screenshot shows a VS Code editor with a Python file named `man.py`. The code defines a function `is_prime(n)` that checks if a number is prime by testing divisibility from 2 to \sqrt{n} . It then uses a list comprehension to find all prime numbers between a user-defined start and end value. The terminal output shows the program running with start value 1 and end value 10, resulting in the list of primes [2, 3, 5, 7].

```

1 def is_prime(n):
2     if n < 2:
3         return False
4     for i in range(2, int(n**0.5) + 1):
5         if n % i == 0:
6             return False
7     return True
8
9 start = int(input("Enter start value: "))
10 end = int(input("Enter end value: "))
11
12 primes = [num for num in range(start, end + 1) if is_prime(num)]
13 print("Prime numbers between", start, "and", end, "are:", primes)

```

Terminal Output:

```

Enter start value: 1
Enter end value: 10
Prime numbers between 1 and 10 are: [2, 3, 5, 7]
PS C:\Users\VMANOJ\OneDrive\Desktop\VMANOJ>

```