BATCH 29

2303A51684

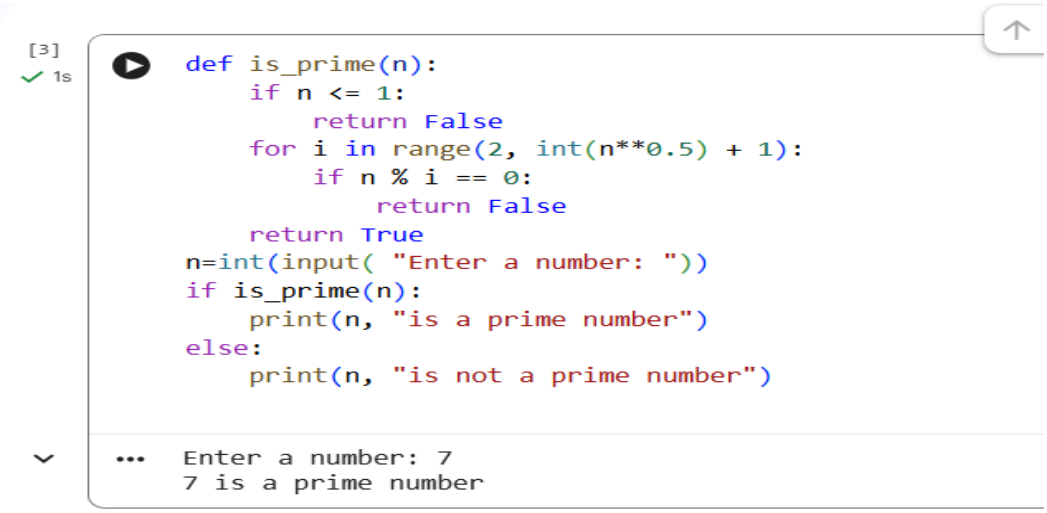
ASSIGNMENT 4.2

Lab 4: Advanced Prompt Engineering – Zero-shot, One-shot, and Few-shot Techniques

Task Description-1

• Zero-shot: Prompt AI with only the instruction. Write a Python function to determine whether a given number is prime

Prompt: Write a Python function to check if a number is prime.

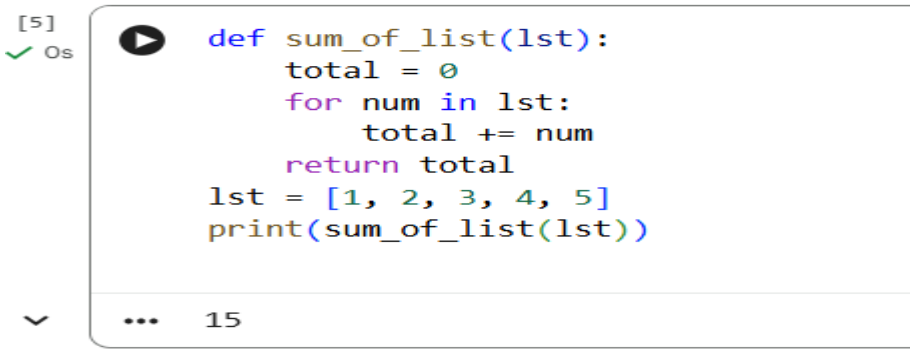


```
[3]
✓ 1s
def is_prime(n):
    if n <= 1:
        return False
    for i in range(2, int(n**0.5) + 1):
        if n % i == 0:
            return False
    return True
n=int(input( "Enter a number: "))
if is_prime(n):
    print(n, "is a prime number")
else:
    print(n, "is not a prime number")

...  Enter a number: 7
     7 is a prime number
```

Task Description–2: One-shot Prompting

Prompt: Generate a function that calculates the sum of elements in a list.

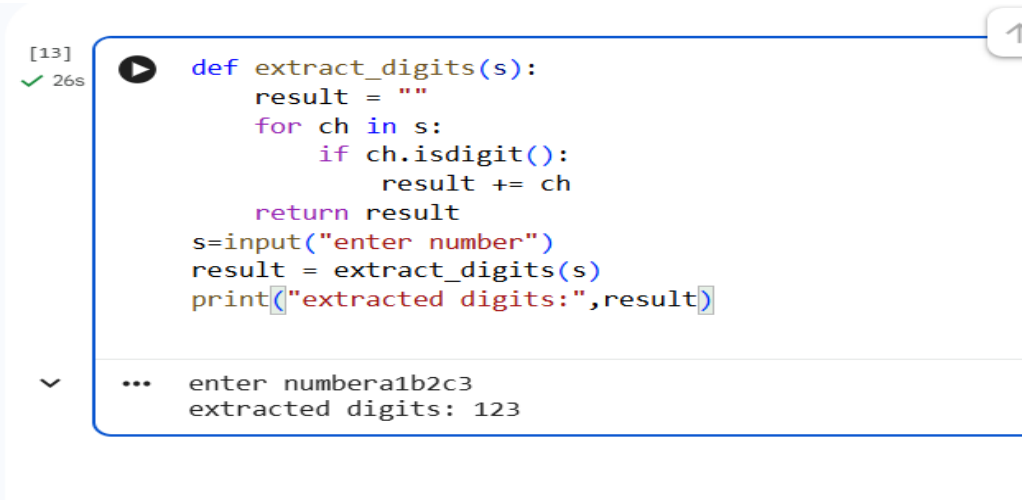


```
[5]
✓ 0s
def sum_of_list(lst):
    total = 0
    for num in lst:
        total += num
    return total
lst = [1, 2, 3, 4, 5]
print(sum_of_list(lst))

15
```

Task Description–3: Few-shot Prompting

Prompt: Create a function that extracts digits from an alphanumeric string.

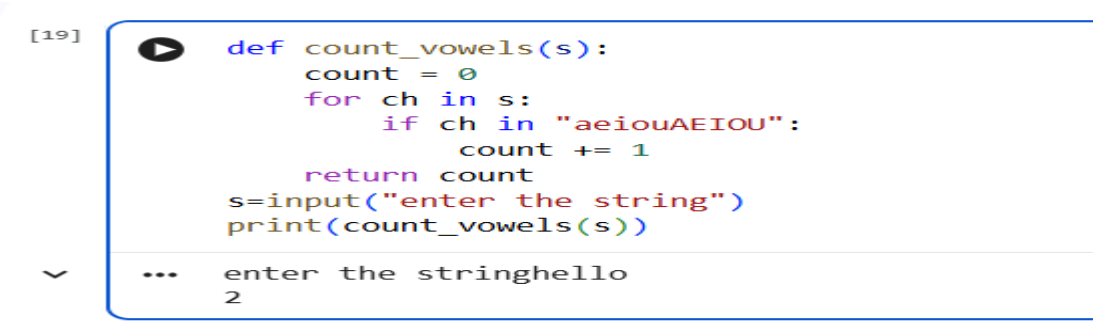


```
[13]
✓ 26s
def extract_digits(s):
    result = ""
    for ch in s:
        if ch.isdigit():
            result += ch
    return result
s=input("enter number")
result = extract_digits(s)
print("extracted digits:",result)

enter numbera1b2c3
extracted digits: 123
```

Task Description–4: Zero-shot vs Few-shot Comparison

Prompt: Generate a function to count vowels in a string.

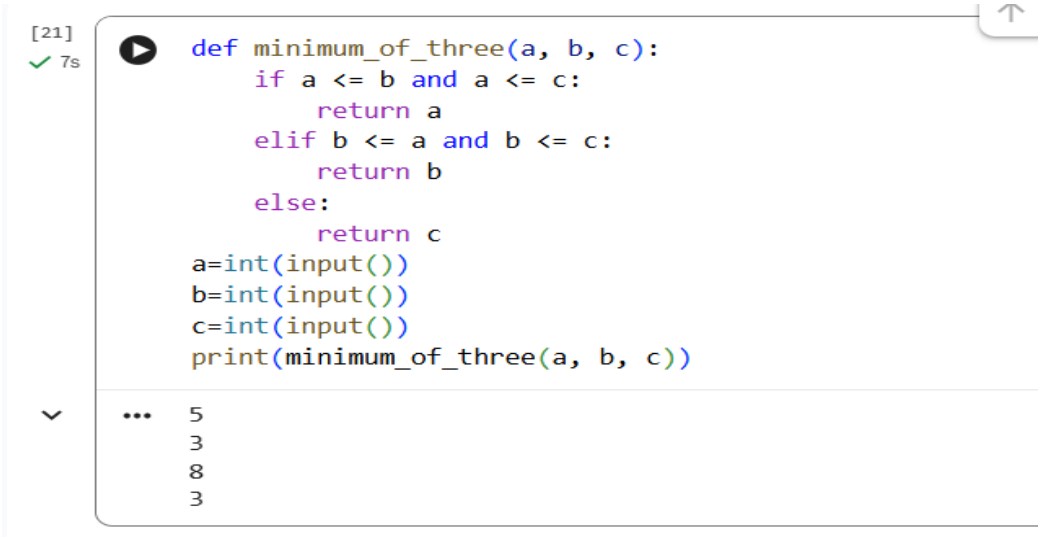


```
[19]
def count_vowels(s):
    count = 0
    for ch in s:
        if ch in "aeiouAEIOU":
            count += 1
    return count
s=input("enter the string")
print(count_vowels(s))

enter the stringhello
2
```

Task Description–5: Few-shot Prompting

Prompt: Find the minimum of three numbers **without using min()**.



```
[21]
✓ 7s
```

```
def minimum_of_three(a, b, c):
    if a <= b and a <= c:
        return a
    elif b <= a and b <= c:
        return b
    else:
        return c
a=int(input())
b=int(input())
c=int(input())
print(minimum_of_three(a, b, c))
```

```
5
3
8
3
```