

## Question 1:

```
text = input("Enter any sentence: ")
letters = digits = special = 0
for ch in text:
    if ch.isalpha():
        letters += 1
    elif ch.isdigit():
        digits += 1
    else:
        special += 1
print("Letters:", letters)
print("Digits:", digits)
print("Special Characters:", special)
```

```
Enter any sentence: my name is @rh@m123
Letters: 11
Digits: 3
Special Characters: 5
```

## Question 2:

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

print("Numbers divisible by 4 or 6 but not both:")
for i in range(start, end + 1):
    if (i % 4 == 0 or i % 6 == 0) and not (i % 4 == 0 and i % 6 == 0):
        print(i, end=" ")
```

```
Enter start: 1
Enter end: 10
Numbers divisible by 4 or 6 but not both:
4 6 8
```

## Question 3:

```
s ▶ sentence = input("Enter a sentence: ")
upper = 0
lower = 0
for ch in sentence:
    if ch.isupper():
        upper += 1
    elif ch.islower():
        lower += 1

print("Uppercase letters:", upper)
print("Lowercase letters:", lower)
```

---

```
↵ Enter a sentence: My Name Is Arham Waqar
Uppercase letters: 5
Lowercase letters: 13
```

### Question 4:

```
▶ word = input("Enter a word: ")
vowels = "aeiouAEIOU"
new_word = ""
for ch in word:
    if ch in vowels:
        new_word += "*"
    else:
        new_word += ch
print("Word after replacing vowels:", new_word)
```

---

```
↵ Enter a word: Sayalni
Word after replacing vowels: S*y*ln*
```

### Question 5:

```
>s ▶ text = input("Enter string with numbers: ")
total = 0
for ch in text:
    if ch.isdigit():
        total += int(ch)
print("Sum of digits:", total)
```

---

```
↵ Enter string with numbers: 123
Sum of digits: 6
```

## Question 6:

```
▶ sentence = input("Enter a sentence: ")
vowels = "aeiouAEIOU"
words = sentence.split()
count = 0
for word in words:
    if word[0] in vowels:
        count += 1

print("Words starting with vowel:", count)
```

```
↵ Enter a sentence: what are you doing
Words starting with vowel: 1
```

## Question 7:

```
▶ start = int(input("Enter the starting number: "))
end = int(input("Enter the ending number: "))
print("Numbers whose sum of digits is even:")
for num in range(start, end + 1):
    digits = str(num)
    total = 0
    for d in digits:
        total += int(d)
    if total % 2 == 0:
        print(num, end=" ")
print("These numbers have an even sum of digits.")
```

```
↵ Enter the starting number: 1
Enter the ending number: 10
Numbers whose sum of digits is even:
2 4 6 8 These numbers have an even sum of digits.
```

## Question 8:

```
▶ text = input("Enter any text: ")
count = {}
for ch in text:
    count[ch] = count.get(ch, 0) + 1
print("Character frequency (sorted):")
for ch in sorted(count):
    print(ch, ":", count[ch])
|
```

```
↵ Enter any text: My name is arham
Character frequency (sorted):
: 3
M : 1
a : 3
e : 1
h : 1
i : 1
m : 2
n : 1
r : 1
s : 1
y : 1
```

## Question 9:

```
▶ start = int(input("Enter start: "))
end = int(input("Enter end: "))

print("Numbers containing digit 3:")
for num in range(start, end + 1):
    if '3' in str(num):
        print(num, end=" ")
```

```
↵ Enter start: 1
Enter end: 40
Numbers containing digit 3:
3 13 23 30 31 32 33 34 35 36 37 38 39
```

## Question 10:

```
▶ start = int(input("Enter the starting number: "))
end = int(input("Enter the ending number: "))

for num in range(start, end + 1):
    only_one = (num % 4 == 0 or num % 6 == 0) and not (num % 4 == 0 and num % 6 == 0)
    digit_sum = sum(int(d) for d in str(num))
    if only_one and digit_sum % 2 == 1 and num % 9 != 0:
        print(num, end=" ")
```

```
↔ Enter the starting number: 10
Enter the ending number: 100
16 30 32 52 56 76 78 92 100
```