# Coding Solutions

## Question 1: (5 Marks)

Write a Python program that takes an integer `n` as input and prints the sum of all numbers from 1 to `n` that are divisible by both 2 and 3.

Use a `for` loop for this task.

## Solution –

```python
# Taking input from the user
n = int(input("Enter an integer (ending number): "))

# Initializing total_sum to 0
total_sum = 0

# Looping through numbers from 1 to n
for i in range(1, n + 1):
    if i % 2 == 0 and i % 3 == 0:
        print(i, end= " ")
        total_sum += i

# Print the result
print("\nSum of numbers from 1 to {} divisible by both 2 and 3: {}".format(n, total_sum))
```

## Question 2: (7 Marks)

You are given a string `sentence` containing words separated by spaces. Write a Python program that counts the number of vowels in the sentence and prints the result.

## Solutions –

```python
# Taking input from the user
sentence = input("Enter a sentence: ")

# Define a string of vowels for comparison
vowels = "aeiouAEIOU"

# Initialize a counter for vowels
vowel_count = 0

# Iterate through each character in the sentence
for char in sentence:
    if char in vowels:
        vowel_count += 1

# Print the result
print("Number of vowels in the sentence:", vowel_count)
```

## Question 3: (8 Marks) -

You are given a list of integers. Write a Python program that squares each element of the list and then filters out the even squared numbers. Finally, print the resulting squared and filtered list in a single line.

## Solutions –

# Taking a list of integers as input from the user

numbers = [int(x) for x in input("Enter a list of integers separated by spaces: ").split()]

# Square each element and filter out even squared numbers

result = [x**2 for x in numbers if (x**2) % 2 == 0]

# Print the resulting list

print(" ".join([str(x) for x in result]))