**Q.1**

Write a program that prompts for the user to input a sentence. Then check this sentence to make sure the first word of the sentence is capitalized and the sentence ends with a punctuation mark. If it is not properly written, fix the sentence, print the type of error, and print the fixed sentence.

**Q.2**

Write a function that takes as input an English sentence (a string) and prints the total number of vowels and the total number of consonants in the sentence. The function returns nothing. Note that the sentence could have special characters such as dots, dashes, and so on.

**Q.3**

Write a program to find the 300th prime number.

**Q.4**

(Health application: compute BMI) Body mass index (BMI) is a measure of health based on weight. It can be calculated by taking your weight in kilograms and dividing it by the square of your height in meters. Write a program that prompts the user to enter a weight in pounds and height in inches and displays the BMI. Note that one pound is **0.45359237** kilograms and one inch is **0.0254** meters. Here is a sample run:

Enter weight in pounds: **95.5**

Enter height in inches: **50**

BMI is 26.8573

**Q.5**

Given the string 'abcdefghij', write a single line of code that will print the following (Hint}: Slicing is your friend):

(a) 'jihgfedcba'

(b) 'adgj'

(c) 'igeca'

**Q.6**

Write a program that accepts a single numeric digit input, ***n***, and computes the value of   
 ***n*** + ***nn*** + ***nnn***   
(all in the decimal number system).

**Q.7**

Write a single line of code whose value is True if the variable ***a\_string*** contains at least one vowel.

**Q.8**

**Graphical user interface, text, application, email

Description automatically generated**

**Q.9**

You are creating a new account and need to provide a password. The password has the following requirements:

(a) The password must be at least 6 characters and at most 20 characters.

(b) It must contain at least one lowercase letter, one uppercase letter,   
 and one number.

Write a program that prompts the user to input a password and checks if the password is valid. If the password is valid, print a confirmation statement. If it is not, print a statement that the password is not valid.

**Q.10**

Write a program that returns True if the sentence string ***sentence\_str*** contains every letter of the alphabet. If the sentence does not contain each letter, print which ones are missing. The results should not depend on capitalization (thus case-insensitive).

**Q.11**

Write a program to find all perfect numbers between 1 and 5000.