# Question 1:

You have been asked to develop an application that will count the number of spaces in a sentence that has been input by the user. Below you will find the code for this application for both the instantiable class and the application class. Please fill in the blanks as listed below to complete the code.

## Instantiable Class

|  |
| --- |
| **public** **class** **CountingSpace**{  **private** String sentence;  **private** **int** spaces;  **public** **CountingSpace**(){  sentence = **new** String();  spaces = **0**;  }  **public** **void** **setSentence**(String sentence){  **this**.sentence = sentence;  }  **public** **void** **compute**(){  **for**(**int** i = **<blank 1>** ; i < sentence.**<blank 2>**() ; i++){  **if**(sentence.**<blank 3>**(**<blank 4>**)==' ' ){  **<blank 5>**;  }  }  }  **public** **int** **getSpaces**(){  **return** spaces;  }  } |

Please write your answers here:

Blank 1 – 0

Blank 2 – length

Blank 3 – chartAt

Blank 4 – i

Blank 5 – spaces= spaces + 1;

## Application Class

|  |
| --- |
| **public** **class** **CountingSpaceApp**{  **public** **static** **void** **main**(String args[]){  **int** spaces;  String sentence;  String flag="";  CountingSpace myCount = **new** CountingSpace();  **<blank 1>** {  sentence = JOptionPane.showInputDialog(**null**,"Please enter a sentence");  myCount.setSentence(sentence);  myCount.compute();  spaces = myCount.getSpaces();  JOptionPane.showMessageDialog(**null**,"There are "+spaces+" spaces in that sentence");  **<blank 2>** = JOptionPane.showInputDialog(**null**, "Would you like to check another sentence?Enter yes or no");  } **while**(flag.**<blank 3>**("yes"))**<blank 4>**  }  } |

Please Write your answers here:

Blank 1 – do

Blank 2 – flag

Blank 3 – equals

Blank 4 – ;

## Question 2

What method returns the number of characters in a chiven String:

* Length ():

What method returns the character at a given index in a String?

* charAt()

## Question 3

Develop an application that accepts a sentence from the user as a String. The application should then count the number of vowels, consonants and spaces in the sentence and output the total of each to the user. You must use instantiable classes and string methods in your solution.

Answer the following question based on your IPO and the code you have written.

**From your IPO Diagram, answer the following:**

What data type will you use to store sentence that the user inputs to the program?

* Answer:String

What data type will you use to store the number of consonants in the sentence?

* Answer: int

What data type will you use to store the number of vowels in the sentence?

* Answer: int

What data type will you use to store the number of spaces in the sentence?

* Answer: int

**From your Object Diagram, answer the following:**

What is the name of your instantiable class?

* Answer: charCount

What is the name of your main class?

* Answer: charCountApp

What other class will you use in this application?

* Answer: none