
# UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

IS2104 - Rapid Application Development 2020

Practical - 4

In this tutorial, we are going to learn about the non-primitive data types of java. This will cover java String and Java array.

**Learning Objectives:**

After going through this tutorial student would be able to understand:

- non-primitive data types in java.
- To store and retrieve the elements from an array.
- To create an array of multiple dimensions.

**Instructions**

1. You should submit
    a. **WordCount.java** and **WordCount.class** file from question number 1.
    b. **StringReverse.java** and **StringReverse.class** from question number 2.
    c. **SumOfMatrices.java** and **SumOfMatrices.class** from question number 3.
    d. A report with screenshots of
        i. Contents of 3 java files
        ii. Outputs of 3 running .class files with the given test cases
    e. The report must be in **PDF** format.
    f. The report name should be **<Index Number>.pdf** eg – 18000000.pdf

2. Zip all 7 files (WordCount.java, WordCount.class, StringReverse.java, StringReverse.class, SumOfMatrices.java and SumOfMatrices.class and Report), name it **<Index Number >.zip**, and upload it to the submission link. eg – 18000000.zip
3. Use an appropriate text editor (eg – Notepad, Notepad ++). You are not allowed to use IDEs
4. Any form of plagiarism or collusion is not allowed.

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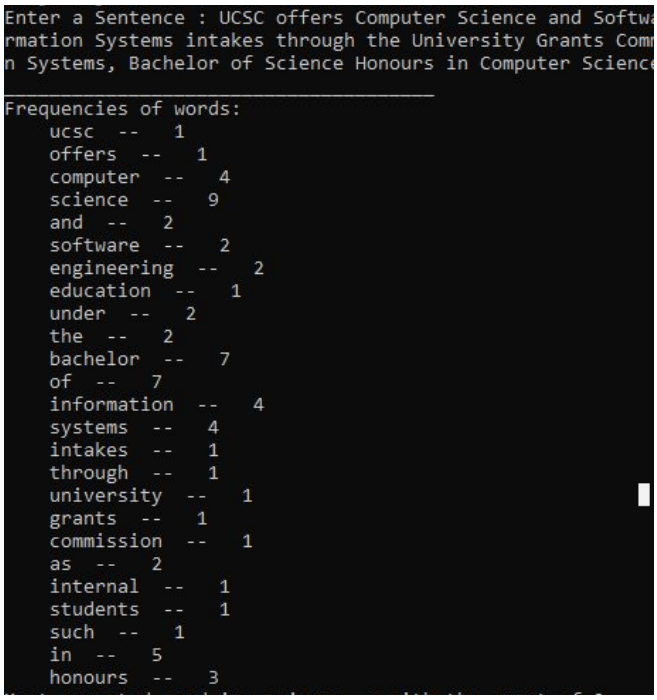
### Question A

1. Write a Java program to count frequencies of words in given user input. (**WordCount.java**). Use the below paragraph as your test input.

| |
|---|
| UCSC offers Computer Science and Software Engineering education under the Bachelor of Computer Science and Information Systems under Bachelor of Information Systems intakes through the University Grants Commission as internal students such as Bachelor of Science in Computer Science, Bachelor of Science in Information Systems, Bachelor of Science Honours in Computer Science, Bachelor of Science Honours in Software Engineering, Bachelor of Science Honours in Information Systems |

Example output:




### Question B

1. Write a Java program to reverse a string (with several words). (**StringReverse.java**). Use the below paragraph as your test input.

The allegory of the cave, or Plato's Cave, was presented by the Greek philosopher Plato in his work Republic to compare "the effect of education and the lack of it on our nature". It is written as a dialogue between Plato's brother Glaucon and his mentor Socrates, narrated by the latter.

Example output:

```
Enter the word to reverse  :
The allegory of the cave, or Plato's Cave, was presented by the Greek philosopher Plato in hi
ur nature". It is written as a dialogue between Plato's brother Glaucon and his mentor Socrat
_____
Reverse Word:.rettal eht yb detarran ,setarcoS rotnem sih dna nocualG rehtorb s'otalP neewteb
o tceffe eht" erapmoc ot cilbupeR krow sih ni otalP rehposolihp keerG eht yb detneserp saw ,e
```

**Question C**

1. Write a Java program to Java Program to add two matrices. (**SumOfMatrices.java**). You should use {{1,2,3},{4,5,6},{7,8,9}}and {{2,3,4},{5,6,7},{8,9,1}} as your matrices input.

Hint:

```
public static void main(String []args){
        int first[][]={{1,2,3},{4,5,6},{7,8,9}};
        int second[][]={{2,3,4},{5,6,7},{8,9,1}};
}
```

Example output:

```
Sum of two matrices:
3 5 7
9 11 13
15 17 10
```