

DSW03A1 - Development Software

27th February 2023
Course Lecturer: Sandile Thamie Mhlanga



Tutorial 2: Recap On Selection, Iteration and methods

Instructions

Due to challenges experienced by some students with tutorial 1, similar concepts are covered for tutorial 2, with emphasis on selection structures, iterators and methods. Similar concepts will be included in your class test. The tutors will work on one or more C# applications to demonstrate the concepts covered.

This tutorial is a Face-to-Face session. Submission is required. Attendance and Submission counts for marks. TUT submitted remotely without attendance will attract zero marks.

- **IMPORTANT:** Please name your Visual Studio Solution like so (failure to do so will attract a **1%** penalty):
 - [STUDENT_NO]_[SURNAME]_TUT2
 - (e.g. 222833200_Mhlanga_TUT2)
- **PLAGIARISM:** Please refer to your Learning Guide as well as the latest University of Johannesburg's plagiarism policy document entitled: "POLICY: PLAGIARISM"

COPYING: This is an individual assignment; if any copying is detected, all parties involved will score a **0%** for the assignment and **WILL** face disciplinary consequences

Question 1

Write an application for UJ Hotel; the program determines the price of a room. Prompt the user to choose 1 for queen bed, 2 for a king or 3 for a king and a pull-out couch. The output echoes the input and displays the price of the room: R450 for queen, R690 for king, and R800 for a suit with a king bed and a pull-out couch. If the user enters an invalid code, display an appropriate message and set price to 0. Save project as **TUT2_Question1**.

Question 2

Light Company is increasing the salaries of its employees according to their department, as can be seen in the table below.

Department Code	Percentage increase
A	5.2
B	4.8
other	4.3

Write a C# application that prompts the user for department code and annual salary of the employee. Calculate and display the increased monthly salary. Use a nested if-statements without. Save project as **TUT2_Question2**.

Question 3

Ten students in a programming class at Clever Computer College wrote a test. The HoD of the college wants to know what the highest mark is and who obtained it, as well as the name of the student who obtained the lowest mark and the mark of the student. Write a C# application that prompts the user for names and test mark for each student. Display the results. The marks are percentages given as integers. Assume that no two students have the same mark. The program must run until a mark of -1 is entered. Save project as **TUT2_Question3**

Question 4

You are required to develop a C# application that calculated the final mark of every student as well as a class average. There are four students in the class and every student wrote three test. The average of the test will provide the final mark. The results must be displayed on the screen. Save project as **TUT2_Question4**

Question 5

Write a C# application that prompts user for a number in the **main()** method. In turn pass the number to the methods ***displayThreeTimesTheNumber()***, ***displayNumberPlusTen()*** and ***displayNumberSquared()***. Create each method to perform the task its name implies. Save project as **TUT2_Question5**

Question 6

Write a C# application that prompts user for two double variables in the **main()** method. Pass both variables to a method called **computePercentage()** that displays the two values and the value of the first number as a percentage of the second one. For example, if the numbers are 3.0 and 5.0, the method should display a statement similar to "3.0 is 60% of 5.0". Then call the method a second time, passing the values in reversed order. Save project as **TUT2_Question6**.

NB: This TUT must be submitted by 23:59, Monday 6th of March 2023

Tutorials