Tshwane University of Technology

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PPB115D/PPG115D ASSIGNMENT 1

NAME OF COURSE
PRINCIPLES OF PROGRAMMING 1B
Department of Computer Science

Due Date: 5th November 2021 10am (no excuse for late submission)

Problem Statement

Write an application for the Mashashane Stands Sales office; the program determines the price of a stand in Ga-Mashashane area.

Ask the user to choose 1 for north area, 2 for south area, or 3 for center area. Stands in the south are R150 000, stands in the north area R170 000, and stands in the center area are R210 000. Allow the user to also enter full names. Add an additional prompt to the appropriate method to ask the user to specify a 'B' for brick fence or a 'W' for a wired fence around the stand, but only if the stand selection is valid. There additional amount is of R5000 is added to the price of any stand if the user prefers a brick fence and R3000 if the user prefer a wired fence. If the selected fencing input is invalid, display an appropriate message. Ensure that all constant members of the class are declared as global variables. Save the file as MashashaneStandSales.java.

Methods Descriptions

Method	Description
main method	Ask the user to choose 1 for north area, 2 for south area, or 3 for center area and call the *ValidateCode* method to validate the area code. Prompt the user to enter the full names and confirm if is a first buyer only if the valid area code was entered. Call all the appropriate method to calculate price, to validate fence type, to get initialized full names and to display Check **figure 1, 2** and **figure 3** for hint
display method	The method receives the initialized full names, the area name, the first time buyer confirmation, the fence type and the total stand price and displays them on the screen. It also ensures that the total stand price is displayed with two decimals. Check **figure 5** for hint
validateCode method	The method determines if the valid area code has been entered and returns a boolean value. Make use of the switch structure.
calcStandPrice method	The method receives the area code and the fence type name in order to calculate the price, There is additional amount of R5000 added to the price of any stand if the user prefers a brick fence and R3000 if the user prefer a wired fence. The 16% VAT amount is also added to the total amount that is returned by the method. Make use of the switch structure where applicable. Check **figure 5** for hint

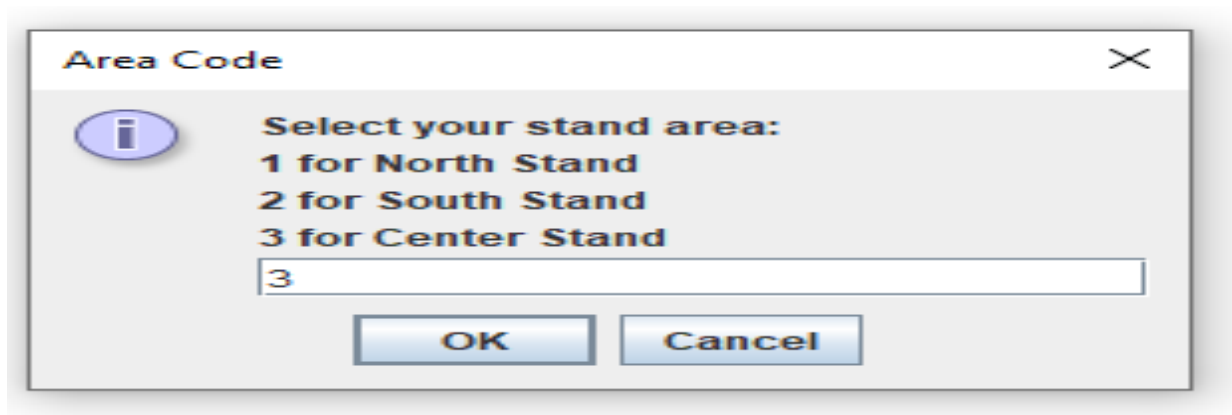|	
validFenceType Method	The method prompt the user to specify a 'B' for brick fence or a 'W' for a wired fence around the stand until the correct fence type is entered. The method returns the fence type name as a string. Use the appropriate character and string methods to get a character and convert it to caps.
initializedName Method	The method receives a full name as a string and return it as initialized string. Hint: If the user enters a name as *Bokang Sekhaolelo* the returned initialized name will be *B. Sekhaolelo*…you must also cater for when a user has two names…. Use the appropriate character and string methods Check **figure 5** and **figure 2** for hint

Sample output figures

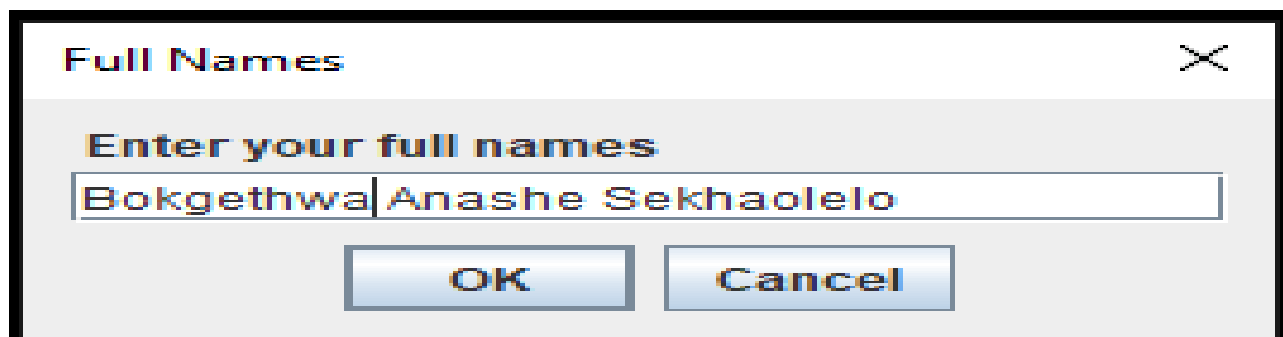**Figure 1: Area code input**

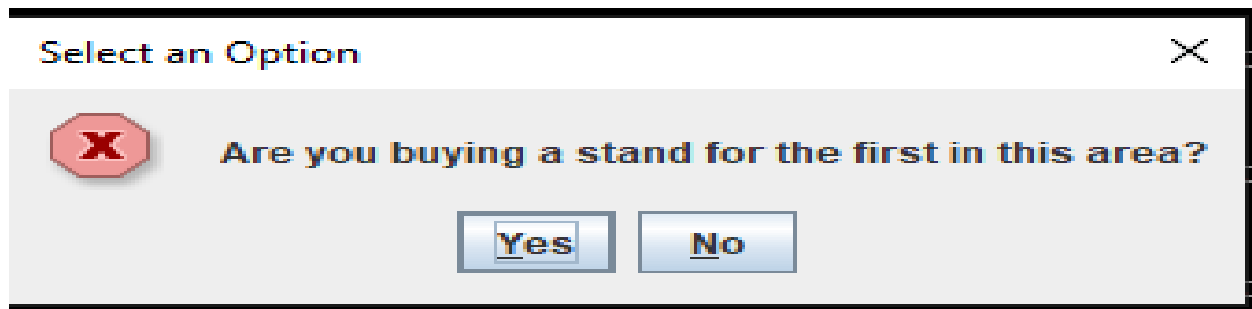**Figure 2: full names input**

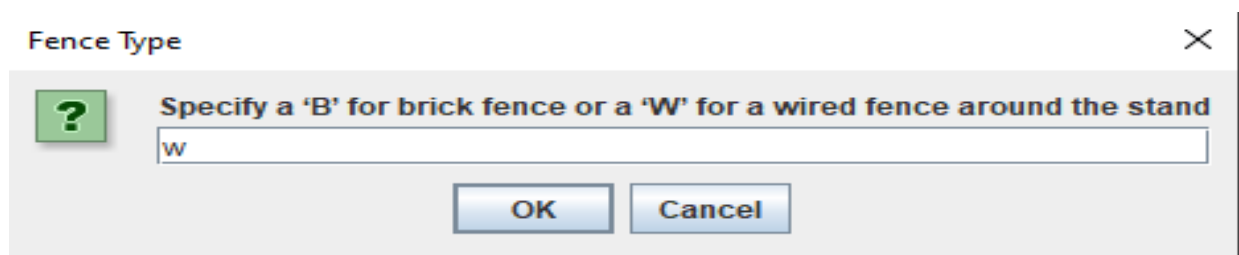**Figure 3: first time buyer confirmation**

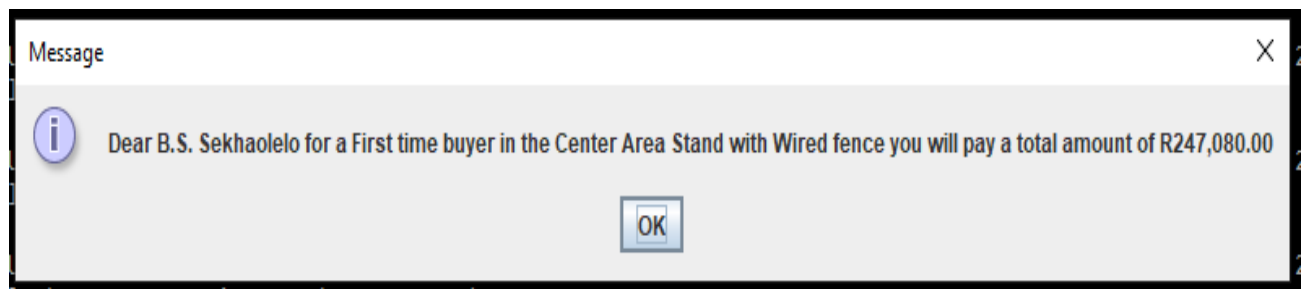
Figure 4: fence type input

Figure 5: the output display

INSTRUCTIONS ON HOW TO SUBMIT ASSIGNMENT ON ELECTRONIC CAMPUS (EC):

1. Create a folder on **D:\ Drive** and rename the folder your **student number**.
2. Open a text editor (notepad++ is recommended) or MS Word and save the text file in your student number folder. Note: All answers of Question 5 must be written and saved inside this text file.
3. Open the **browser**.
4. Type http://ec.tut.ac.za in the address field of the browser and press enter.
5. Click **Login.**
6. Type in student number for user name and if you are using EC for the first time you must use your student number as your password.
7. Alternatively, you must enter your password.
8. Click **Login button**.
9. Click [**Continue**]
10. Select [**Student**]
11. Select [**Tests**]
12. Select [**Webtest 4**]
13. Type or Select **PPG115D/PPB115D** into the first text field.
14. Type or Select **20212** into the second text field.
15. Type or Select **A** into the third text field (The "**A**" must be a capital letter).
16. Click "**Next**"
17. Click on the "**Write**" button
18. Click on "**[Start]**" and you will be in the test to submit your answers
19. Click on **[Section]** on the test to submit each Questions, and click [Go] to submit your answer- Copy your answer and paste it in the space provided
20. Click **[Test]** to move to the next or previous Questions
21. Under each question click edit to update your answer