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COURSE ASSESSMENT 2019

COURSE DETAILS

Course Code:	PRG510S	Semester:	1
Course Title:	Programming 1		
Lecturers:	Co-ordinator:	Mr. H. Kandjimi	
	Mr. S. Muchinenyika, Mr E. Mbaeva, Ms N. Nashandi, Mr J. Lumbasi, Mr. V. Paduri , Mr. S. Tjiraso and Dr. C. MacRae		

COURSEWORK DETAILS

Assessment Number:	1	of	1
Title of Assessment:	Building a basic console application in Java		
Formats:	Demonstration	Source Code (Program)	
Method of Working:	Individual		
Workload Guidance:	Expect to spend about 20 hours on this assessment		

PUBLICATION

Date of Issue:	Monday 25 March, 2019 (Semester 1,)

SUBMISSION

Soft Copy:	All Submission shall be done on e-Learning. Submit your work as a zipped folder with your student number as a name (i.e. 210000000.zip) BEFORE 00h00 on Monday, 06 May 2019.			
Hard Copy:	Not required (If required will be communicated)			
Late Submission:	Late submission will not be entertained without prior approval			
Multiple Hand-ins:	Multiple hand-ins before the due date is allowed but the latest version will be graded.			
Time and Date for Submission Closing:	**Date**	Monday, 06 May 2019	**Time**	00h00

ASSESSMENT

The Assessment is:	30%	out of	100% final mark

Assessment Strategy

The assessment strategy is designed to evaluate the student's achievement of the course learning outcomes, and is subdivided as follows:

Learning Outcome ID	Description	Method of Assessment
1	Apply problem solving approaches, basic concepts in application design, implementation and testing	Demonstration
2	Design applications, using single Java class with several methods for functionality;	Source code
5	Identify problem/program specification as described and transform the idea into a java application	Source code

FEEDBACK

Feedback will be given via:	E-Learning
How long after submission will it be available:	Not later than 2 weeks

ASSIGNMENT DETAILS

The main aim of this assignment is for the students to create a console application based on a java class/classes, methods for functionality, and be able to implement most if not all concepts learnt in theory. For the sake of this assignment we will consider a vending machine system.

The Vending Machine at the entry of Office building has been disconnected due to irregularities in the item and finance management. The SRC representative on student entertainment and welfare has been informed of your newly acquired knowledge in application development and have approached you to create a stable management system for the vending machine. The system is meant to help the vending machine's owner in managing its stock and finances, with this in mind your application should then allow for the user to enter a code which is either linked to an item or the pin code used by the owner. If an item code is entered the balance/cost for that item is displayed prompting the user for how many items they what to buy, however if the owner's pin is entered then an admin menu is displayed.
The landing page should give a brief description of the vending machine such as the Name, address and random items in stock and prices, a sample landing page is follows (decorations up to your own choosing):

```
*          Welcome to X Machine      *
*          <<information here>>      *
******************************
Enter an item code:
```

The application should prompt the owner for a login confirmation code after their have enter the pin (this is used as a security measure king of a two stage authentication). Once logged in system will then offer the following options to the admin, the privilege to restock/ add new items to the vending machine, change prices, Cash out certain amounts from machine, cash in certain amount, print out a summary of all items in stock, print out amount of cash in categories(How many 100s, 50s up to 5cs)and print out only items that need restocking (all items below 25 need to be restocked, hence the quantity of 25 is the re-order level) or exit, create a menu for this options. **[NB: When cashing out/in amounts the owner indicates how many 100s, 50s and soon, this information is recorded since it is used when giving change]**

The customer should be able to buy items and get a receipts with all details of items bought, remember this is an advanced vending machine hence one can buy more than one items.
The printed receipt contains the following details: the item name, quantity, price and total, it should also give a description of the change given out, see below example (decoration up to your own choosing):

```
*                X Vending Machine              *
*              <<information here>>             *
************************************
Name            QTY   Price       Total
Coke 330ml      3     12.45       37.35
S/Chips 750g    1     24.95       24.95
Bar one         1     8.7         8.70
-------------------------------------------------
                VAT@15%           10.65
Total                             81.65
Tendered                          200.00
Change                            118.35
************************************
   Date: 20 – April – 2019/15:35:20
************************************
      Thank You For Your Support
          Please call Again
************************************
```

Your change is disbursed as follows: N$100 X 1, N$10X1, N$5X1 , N$1X3 , 10cX3 and 5cX1

Please note the change is linked to the amount of cash in the machine, that is if there are no hundreds then the user gets 2 x 50, and that should be recorded to indicate the remaining 50s in the machine has decreased. The same applies to when a customer pays with a 100 then the count for 100s in the machine increases.

PART I : Program Functionality

The program / Application approach is entirely up to you, so long as it follows the description above. In addition innovation and creativity will be an added advantage, however below are guidelines to follow:

1. Planning in forms of Pseudocode and Flowcharts **[15 marks]**
2. Different menu levels: Landing page, Owner Menu and Customer Menu **[6 marks]**
3. Two stage authentication for owner **[5 marks]**
4. Data storage using data Structures such Arrays etc. **[12 marks]**
5. Receipt information calculations and formatting **[10 marks]**
6. Change calculations and print out **[8 marks]**
7. Management options by Admin (3 marks each) **[18 marks]**
8. Customer options and interactions **[5 marks]**

PART II: Program formatting and presentation

The source code will be marked according to the following indicators.

9. Good modular designs within same program file, different methods per functionality **[03 marks]**
10. Good comments **[03 marks]**
11. Ability to explain a portion of the code as may be required by the evaluator **[15 marks]**

Part III: Further information

12. PLEASE NOTE THAT INABILITY TO EXPLAIN YOUR CODE WILL LEAD TO ALL THE MARKS BEING HALVED.
13. PLAIGIRISM WILL NOT BE TOLORATED AND HENCE IF ASSIGNMENTS ARE COPIED OR SHARED, THEN ALL STUDENTS INVOLVED ARE DISQUALIFIED.

Total Marks: 100

**********The End**********