Logo: Cardiff Metropolitain University

School of Technologies

### Assessment

### Brief

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| --- | --- |
| Module Code | Module Title |
| CSE4002 | Fundamentals in Programming |
| Academic Year | Semester |
| 2024 | 1 |
| Module Leader email | |
| nisansala@icbtcampus.edu.lk | |

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# Assessment Details

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| Assessment title | Abr. | Weighting |
| Restaurant breakfast billing system | WRIT1 | 100% |
| Pass marks are 40% for undergraduate work and 50% for postgraduate work unless stated otherwise. | | |

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| --- | --- |
| Task/assessment brief: | |
| Meal hut is a fast growing local restaurant which offers only breakfast items. Currently they are maintaining orders and print the bill manually with the use of a cash book. They have taken a step forward to provide a valuable service to its customers by automating their breakfast billing procedure. Their main objective is to provide faster and reliable service by providing correct information, without tiring the customers when such service is required. Program can use an appropriate data storage mechanism when storing several inputs by users. The program should do the following:  • Show the customer the different breakfast items offered by the restaurant.  • Allow the customer to select more than one item from the menu.  • Calculate and print the bill.  Assume that the restaurant offers the following breakfast items (The price of each item is shown to the right of the item):  \*\*\*\*\*\*\*\*Welcome to Meal Hut\*\*\*\*\*\*\*\*\*  Breakfast Billing System  Item No Menu Item Price  111 Plain Egg $1.45  112 Bacon and Egg $2.45  113 Muffin $0.99  114 French Toast $1.99  115 Fruit Basket $2.49  116 Cereal $0.69  117 Coffee $0.50  118 Tea $0.75  Your program must contain at least the following functions:  1. Function **getData**: This function loads the data into the array menuList.  2. Function **showMenu**: This function shows the different items offered by the restaurant and tells the user how to select the items  3. Function **printCheck**: This function calculates and prints the check. (Note that the billing amount should include a 5% tax.)  A sample output is;  \*\*\*\*\*\*\*\*Welcome to Meal Hut\*\*\*\*\*\*\*\*\*  Breakfast Billing System  Item No Menu Item Price  112 Bacon and Egg $2.45  113 Muffin $0.99  117 Coffee $0.50  Tax $0.20  Amount Due $4.14  Assumptions to be made:  Any assumptions according to your system requirements can be made. (Should clearly stated)  Note: Make this as a menu driven program; Show the user’s choice and allow the user to make appropriate choice. Use an appropriate data storage mechanism and suitable modularization techniques.  It should be noted that the students will be assessed for their originality and creativity of design.  Attach softcopy of error free program with your documentation.  Keep all the backups  Tasks:   1. Explain system requirements and report into SRS document, and design system using flow charts for core functions such as getData, showMenu and printCheck according to given scenario. Use appropriate modularization to reduce the complexity of the design. (25 marks) (LO2) 2. Develop and submit a functional C++ program to meet the requirements given in the specification, by following the design created above. (50 marks) (LO3)   Viva Evaluation will be held according to below criteria,   1. Evaluate the learner’s ability to describe controlling structures used for the implementation with improved coding efficiency (i.e., sequence structure, selection structure and repetition structure). (10 marks) (LO1) 2. Identify the use of modularization with effective data passing between developed modules during the implementation. (10 marks) (LO1) 3. Evaluate the techniques used for appropriate storage and backup requirements such as files, arrays, structs(records), etc. (10 marks) (LO3) 4. Provide appropriate guidelines to user, apply validations for user inputs and improve user-friendliness of the software. (10 marks) (LO3) 5. Assess the ease of navigation between modules, accuracy, creativity and completeness of the system. (10 marks) (LO3) 6. Prepare a test document including test plan, test cases and test results. Conduct user acceptance testing and provide feedback with sample questionnaires used.Standard report structure should be followed. (25 marks) (LO4) | |
| Word count (or equivalent): | 3000 |
| This a reflection of the effort required for the assessment. Word counts will normally include source code, any text, tables, calculations, figures, subtitles and citations. Reference lists and contents of appendices are excluded from the word count. Contents of appendices are not usually considered when determining your final assessment grade. | |

