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**GROUP ASSIGNMENT**

**TECHNOLOGY PARK MALAYSIA**

**CT010-FSD**

**FUNDAMENTALS OF SOFTWARE DEVELOPMENT**

**UC1F1805CS**

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**LECTURER NAME:**

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# GROUP TASK REPORT

INSTAKE:

|  |  |
| --- | --- |
| COMPONENTS | NAME |
| MENU DISPLAY, FUNCTIONS, PURCHASING TICKETS, SEATING ARRANGEMENT, BOARDING TICKET PRINT, FILE I/O. |  |

# PSEUDOCODE

START

INITIALIZE customer\_ferry\_id to 0

INITIALIZE customer\_trip\_time to 0

FUNCTION CALL mainmodule with PARAMETERS customer\_ferry\_id & customer\_trip\_time

WHILE TRUE LOOP

DISPLAY FERRY TICKETING SYSTEM

DISPLAY P-Purchase Ticket

DISPLAY V-View Seating Arrangement

DISPLAY Q-Quit

INPUT from user in choice1

IF choice1 is P

FUCNTION CALL infomodule

WHILE TRUE LOOP

DISPLAY F-Select Ferry ID

DISPLAY T-Select Trip Time

DISPLAY P-Previous Menu

INPUT from user in choice3

IF choice3 is F

DISPLAY Ferry\_id list

INPUT ferry\_id from USER

ASSIGN user’s choice to customer\_ferry\_id

ELSEIF choice3 is T

DISPLAY Trip\_time list

INPUT trip\_time from USER

ASSIGN user’s choice to customer\_trip\_time

ELSEIF choice3 is P

FUNCTION CALL purchasemodule with PARAMETERS customer\_ferry\_id & customer\_trip\_time

WHILE TRUE LOOP

DISPLAY PURCHASING TICKET MODULE

DISPLAY B-Business Class

DISPLAY E-Economy Class

DISPLAY M-Main Menu

INPUT from user in choice2

IF choice2 is B

IF customer\_ferry\_id equals to one of the ELEMENTS of the Ferry\_id list

WHILE x not equals 10

IF any ferry(1-8) list ELEMENTS of business class equals ZERO

ASSIGN 1 to the specific ELEMENT

ASSIGN FLAG to 0

ELSEIF ferry(1-8) list ELEMENTS equal ONE

ADD 1 to the counter X

ASSIGN FlAG to 1

IF FLAG equals 0

ADD 1 to the COUNTER x

ELSEIF FLAG equals 1

DISPLAY all seats have been booked,proceed to the menu.

ELSEIF choice2 is E

IF customer\_ferry\_id equals to one of the ELEMENTS of the Ferry\_id list

WHILE x not equals 10

IF any ferry(1-8) list ELEMENTS of economy class equals ZERO

ASSIGN 1 to the specific ELEMENT

ASSIGN FLAG to 0

ELSEIF ferry(1-8) list ELEMENTS equal ONE

ADD 1 to the counter X ASSIGN FlAG to 1

IF FLAG equals 0

ADD 1 to the COUNTER x

ELSEIF FLAG equals 1

DISPLAY all seats have been booked,proceed to the menu.

ELSEIF choice2 is M

FUNCTION CALL mainmodule with parameters customer\_ferry\_id & customer\_trip\_time

ELSE

DISPLAY invalid input

ELSEIF choice1 is V

FUCNTION CALL seatingmodule with PARAMETERS customer\_ferry\_id & customer\_trip\_time

DISPLAY date

WRITE date to file ferryticketingdata.txt

DISPLAY customer\_ferry\_id

WRITE ferryid to file ferryticketingdata.txt

DISPLAY customer\_trip\_time

WRITE triptime to file ferryticketingdata.txt

DISPLAY business class

WRITE business class data to file ferryticketingdata.txt

IF customer\_ferry\_id equals to one of the ELEMENTS in Ferry\_Id list

DISPLAY ELEMENTS of business class of that ferry

DISPLAY economy class

WRITE economy class data to file ferryticketingdata.txt

DISPLAY ELEMENTS of economy class of that ferry

ELSEIF choice1 is Q

EXIT the program

ELSEIF choice1 is R

OPEN file ferryticketingdata

DISPLAY DATA

ELSE

DISPLAY invalid input

END

# SAMPLE OUTPUTS

## MAINMODULE AND SELECTION OF TRIPTIME AND FERRY ID’S

## LIST OF FERRY IDS AVAILABLE

## LIST OF TRIPTIMES AVAILABLE

## THE PREVIOUS MENU

## BOOKING OF BUISNESS/ECONOMY CLASS

* VIEWING SEATING ARRANGEMENT MENU
* VIEWING SEATING ARRANGEMENT

## READING FILE MODULE

# MODULE COMPONENTS

## PROGRAM START

The program starts with initializing the global variables customer ferry id and customer trip time to. Defining the lists of business class, economy class, and eight lists for the total ferries. Trip Times and Ferry ids that are available are stored in the lists. After initializing the MAINMODULE function is called with the parameters given by the user that includes customer ferry id and customer trip time.

## MAINMODULE

The Main Module of the programs gives user the choice to select between purchasing a ticket, viewing seating arrangement, viewing the previously booked ticket or quitting the program. This is incorporated within a while true that works until the user presses the Q to exit.

## INFOMODULE

The info module gives the user a choice to select a ferry id and trip time after displaying a list of ferries and list of trip times available. The user selects the trip time and ferry id and these values gets assigned to the global variables customer ferry id and customer trip time.

## PURCHASING TICKET MODULE

The Purchasing ticket module gives the user a choice to select between business class and economy class of the selected ferry. Using users input it then assigns a seat to the user in the selected class after checking if the seat is empty or not. If the seat is empty it turns the initial value of the seat from 0 to 1. It keeps track of the seats if all of them are booked, it then it displays a message to the user to select the other class to proceed.

## VIEWING SEATING ARRANGEMENT

. The displaying seating arrangement module shows the boarding pass on the compiler to the user. First, it matches the chosen ferry ID from the list of available ferry IDs. The corresponding ferry I d is written, comprising of both the business class and the economy class of the ferry. This module also writes a full boarding pass to the file FERRYTICKETINGDATA.txt. Reads the latest date from the device and displays it on the boarding pass.

## READING MODULE

The reading module provides the user to read data from the file FERRYTICKETINGDATA.txt and shows it on the compiler screen. It is the boarding pass of the last user. It shows the booked tickets and the complete ferry details.

# ADDITIONAL FEATURES

## COMPLETE CONTROL

This software has full control over the data of users. It is inserted into a while loop that shows inaccurate feedback when the wrong key is pressed. The software would never fail or display error through the whole process. The programme begins by calling a function that sends global variable values in the programme. It allows the user the option to toggle between various application modules, allowing the user to swap menus and return to whatever menu they choose. (David L. Poole, 2017)

## TRACKING SEATS BOOKED

This software contains a feature where tickets are reserved by the customer. Users are given the option to choose between the business class and the economy class of the ferry by using global variables. Global variables are used to monitor the chosen ferry of the customer. This value is used to verify whether or not the specified ferry seats are vacant. This is achieved by testing whether or not the class seat has a ZERO value. If the value is Negative, it will be modified to ONE. By using a flag, it keeps track of bookings. The flag is true when the seat is not vacant and the seat is incorrect when the seat is vacant. It then checks the value of the flag and, if it is ONE, asks the user to pick the next classification. (Herman, 2013)

## VIEWING SEATING

This program gives the user to view seating of the selected ferry. This module reads the current date from the system and displays user a boarding ticket with the details including customer ferry id, trip-time, date and the business class and economy class of the ferry selected by the user through the global variable customer ferry id. (Miles, 2018)

## FILE INPUT & OUTPUT

This program also includes the FILE I/O. After the user has booked a ticket and selects the viewing arrangement module it writes the whole boarding pass to the file named as FERRYTICKETINGDATA.txt. This information includes the date, ferry id, trip-time, and the business and economy classes of the ferry. This complete boarding pass is written to a file. This program also includes with an option to view the last booked seat by reading the file. It displays the last boarding pass booked by the user on the compiler screen. (Zelle, 2004)

## PROPER COMMENTED

This program is well commented providing the user details about the modules made and how the control of the program works. Every modules start is commented how the module works. (Ashok Namdev Kamthane, 2018)

# ASSUMPTIONS

In this application, it was believed that the user would book one ticket from the full module and then go back to the main menu to book more tickets. The register includes the last tickets booked on the ferry. When the next user begins the programme, he has the option of showing the last booked tickets that have been stored in the register. The user will book more than two tickets, but the most recent one will be seen in the viewing seating arrangement module. The register includes all the previous reserved seats in the ferries.. (Bradley N. Miller, 2010)

# 

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