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| **LAB211 Assignment** | **Type:** | **Short Assignment** |
| **Code:** | **J1.S.P0073** |
| **LOC:** | **100** |
| **Slot(s):** | **2** |

**Title**

Program to manage expense, name Handy Expense

**Background**

(Project detached from TTS)

**Program Specifications**

Write a file processing program using to manage expense, named Handy Expense

Display menu:

1. Add an expense

2. Display all expenses

3. Remove an expense

4. Exit

Selection of users:

1. If the user chooses 1, add an expense. Each expense includes ID (int), date (String), number (double), content (String). Which ID is increased automatically (i.e. expense ID = last expense ID + 1), the first expense ID: 1.

2. If the user chooses 2, The program displays a list of data as follows:

                ID Date Amount of money Content

                1 11-Apr-2009 100 Tuition fee

                2 20-Apr-2009 250 Rent house

                3 30-Apr-2009 200 Food

Total: 550

3. If the user chooses 3, prompt user to input the ID program expenses should be deleted, if nonexistent ID, display a message: "Delete an expense fail".

4. If the user chooses 4, exit program.

***Function details:***

**Function 1:** Display a menu and ask users to select an option.

* Users run the program. The program prompts users to select an option.
* Users select an option, perform **Function** **2**.

**Function 2:** Perform function based on the selected option.

* Option 1: Add an expense
* Prompt users input information of the expense (ID, Date, Quantity, Content)
* ID auto increase, ID = ID Max + 1 in the next time.
* Option 2: Display all expenses
* Display the list of the expenses and total all the inputted expense amount
* Option 3: Delete an expense
* Prompt users input expense ID of the expense they want to delete.
* If ID does not exist, display on the screen: "Delete an expense fail"
* If ID existed, delete and display on the screen :”Delete an expense successful”
* Option 4: Exit program.

### *Expectation of User interface:*

=======Handy Expense program======

1. Add an expense

2. Display all expenses

3. Delete an expense

4. Quit

Your choice:

-------- Add an expense--------

Enter Date:

Enter Amount:

Enter Content:

---------Display all expenses------------

ID Date Amount Content

1 11-Apr-2009 100 Tuition fee

2 20-Apr-2009 250 Rent house

3 30-Apr-2009 200 Food

Total: 550

--------Delete an expense------  
Enter ID:

1

2

3

4

**Guidelines**

**Student implement methods**

addExpense

displayAll

deleteExpense

**in startup code.**

**Example:**

**Function 1:** Add the expense.

* Implement function: public boolean addExpense(List<Expense> list, Date date, double amount, String content)
  + Input:
* list: list of all expense.
* date: date/month/year.
* amount: amount of money.
* content: Content.
  + Return values: Add expense status.

**Function 2:** Display list of expenses.

* Implement function: public void displayAll(List<Expense> list)
  + Input:
* list: list of all expenses
  + Return values: void.

**Function 3:** Delete an expense

* Implement function: public boolean deleteExpense(List<Expense> list, Expense exp)
  + Input:
* list: list all the expense.
* Exp: The expense that users want to delete.
  + Return values: Delete the expense status.