

**Project (10%)**  
**SCSR2033 Computer Organization and Architecture**  
**Sem I 2014/2015**

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**Introduction**

In groups of 2 or 3, you must complete the task given. The program should interactively ask the user to input the values. You may use your own creativity in displaying the output.

**Task A: The Vending Machine**

There are 4 items, as shown in the table below.

Item #	Item	Price (cents)
1	TEA	60
2	CHOCO	70
3	COFFEE	100
4	MOCHA	120
5	MILK	15
6	SUGAR	10

You must have an item banner. An example is shown below. You may of course, create your own design.

```
*****  
1.TEA-60 : 2.CHOCO-70 : 3.COFFEE-100 : 4.MOCHA-120  
*****
```

- You must ask for money input from the user. Money is in the form of 10, 20 or 50 cents.
- The user will input the item they want to purchase and the number of items they need (example: 2 coffees).
- Then determine if the money entered is enough for the item (or items) purchased.
- The program must also let users add extra milk or sugar (if the want to) with the extra payment.
- The program must be able to return to a starting point to start a new option.
- Output the appropriate messages (like a vending machine would).

You must write a program in assembly language to achieve the desired output.

**Sample output:**

Please be reminded that this is just a suggestion, and you must use your creativity.

```
*****
1.TEA-60 : 2.CHOCO-70 : 3.COFFEE-100 : 4.MOCHA-120
*****
PLEASE INPUT MONEY:
10 :3
20 :2
50 :1

YOUR MONEY: 120
PLEASE CHOOSE ITEM:1
HERE IS YOUR TEA
HERE IS YOUR CHANGE: 60
```

**What and when to submit**

- You will submit the .asm file (in its original format) along with the output each program, in e-learning.
- Only submit 1 assignment per team.
- You must also demo your program, so it is important that you know and understand the program.
- Demos are done in Week 15. Demo schedule will be posted, please be attentive of this. Please bring your own laptop for demo session.
- The demo will be conducted and evaluated by the appointed teaching assistant.
- The completed project must be submitted on **11 December 2014 before 12 pm.**

**What is evaluated?**

You will be evaluated on the following criteria:

- Creativity
- Project understanding
- Program effectiveness
- Program Completeness
- Comment appropriateness (Documentation appropriateness)