King Abdulaziz University
Faculty of Computing and Information Technology
Computer Science Department

Assignment #1 – CPCS 202 (Spring 2020)

Published date : 16th February, 2020 (Sunday)
Submission date : 11:59pm on 25th February, 2020 (Tuesday)

Objective
The objective of this assignment is to test a student's ability in applying his knowledge of primitive data types and selection statements to some real world problems

Note:

- This program is worth 4% of your final grade
- This is an individual assignment. Any form of cheating will result in receiving – 4% (less than zero) in the program
- This assignment must be submitted online via blackboard
- You are allowed to make a late submission, but there is a penalty. If you submit within 24 hours of the due date (so on Wednesday by 11:00PM), you will receive a 25% deduction from your total grade. You will not be allowed to submit after this date/time
- If files are empty or you upload the wrong files, it will be solely your responsibility, and you will be awarded a grade zero

Deliverables
You are required to submit the following on blackboard on or before the deadline

1) Algorithm written in pseudo code (*.pdf)
2) Your Java file named as follows : *A1_X_Y.java* where X is your section code and Y is your university id.

Your output should look exactly like the output given in the sample run. Also, at the top (start) of both files add comments which clearly indicate your name, student id, course number, section number, assignment number and your email id.

Marking Rubric
Will be posted on blackboard. Please refer to it online

Description

Bank Al Badr has deployed new ATM machines. These machines can deliver a maximum of SAR 5000 per customer and a maximum of 20 notes per transaction. The machine holds notes of the following denominations - SAR1, SAR5, SAR10, SAR50, SAR100 and SAR500. You are asked to write a simple application for the bank to run on the ATM. The bank charges a service fee (*S*), based on the amount to be withdrawn (*W*) as follows

a. 3.05% of the withdrawal amount if $W > 2500$
b. 2.45% of the withdrawal amount if $W \leq 2500$.

The description of the application as follows.

The application displays a welcome screen and asks the customer to enter two numbers – his current balance (*B*, in SAR) and the amount to withdraw (*W*, in SAR). A message is displayed to the customer according to the following

a. "Sorry, insufficient funds!" if (W+S >= B)
b. "Sorry, cannot dispense amount!" if more than 20 notes are required to dispense the amount.
c. "Sorry, amount exceeds maximum daily limit!" if the withdrawal amount is greater than SAR5000.
d. "Transaction successful. Your new balance is SAR _____" for all other cases where balance amount is SAR (B-W-S). The balance should be formatted to 2 decimals only.

Details of the notes dispensed should be displayed (properly formatted as shown in the sample run #4) at the end if the transaction is successful.

Sample Run #1

--------- Welcome to Bank Al-Badr ---------

Please enter your current balance (in SAR) : 82000.34
Please enter the amount to withdraw (in SAR): 5500
Sorry, amount exceeds maximum daily limit!

Sample Run #2

--------- Welcome to Bank Al-Badr ---------

Please enter your current balance (in SAR) : 324.43
Please enter the amount to withdraw (in SAR): 455
Sorry, insufficient funds!

Sample Run #3

--------- Welcome to Bank Al-Badr ---------

Please enter your current balance (in SAR) : 5000
Please enter the amount to withdraw (in SAR): 5000
Sorry, insufficient funds!

Sample Run #4

--------- Welcome to Bank Al-Badr ---------

Please enter your current balance (in SAR) : 8764.44
Please enter the amount to withdraw (in SAR): 2341
Transaction successful. Your new balance is SAR 6366.09

Details of notes dispensed

500 x 4 =	2000
100 x 3 =	300
50 x 0 =	0
10 x 4 =	40
5 x 0 =	0
1 x 1 =	1
	____
Total amount (SAR)	2341