King Saud University College of Computer & Information Science CSC111 – Lab05 Loops All Sections

Lab Exercise 1

Write a Java program that calculates and prints the cost of games that a customer buys at a gaming store as following:

- The cost of the game is input.
- A customer must buy at least 1 game (otherwise print "Error").
- If a customer buys more than 2 games then he will get a 20% discount.

Your program should read game id, the cost of the game as a double value and number of games. Then it should print the total cost after discount (if applicable). Name your class **GameStore1**.

Here are some sample runs to show different cases:

Sample Run 1

```
Welcome to Gaming Center :).

Please, enter game id: 1 

Please, enter the price of a game: 100 

Please, enter number of games: 5 

Total price for game 1 is: 400.0SR
```

```
Welcome to Gaming Center :).

Please, enter game id: 3 4

Please, enter the price of a game: 200 4

Please, enter number of games: 2 4

Total price for game 3 is: 400.0SR
```

Sample Run 3

Welcome to Gaming Center :). Please, enter game id: 6 4 Please, enter the price of a game: 200 4 Please, enter number of games: 0 4 Error

Lab Exercise 2

Previous program has a problem since it does not allows you to enter different prices for different games. Convert your program into an interactive point of sale program for a gaming store. The new program should work as following:

- The program will read id, price of games until user enters -1 as a game id.
- If a customer buys buys more than 2 copies then he will get a
 20% discount otherwise he will pay regular price.
- The program should print price before discount, discount amount and price after discount.

Name your class GameStore2.

Here are some sample runs to show different cases:

```
Welcome to Gaming Center :).

Please, enter game id: 1 4

Please, enter the price of next game: 100 4

Please, enter game id: 2 4

Please, enter the price of next game: 130 4

Please, enter game id: 4 4
```

```
Please, enter the price of next game: 200 

Please, enter game id: -1 

Total price before discount: 430.0SR

Your discount is: 86.0SR

Total price after discount: 344.0SR
```

Sample Run 2

```
Welcome to Gaming Center :).

Please, enter game id: 1 

Please, enter the price of next game: 100 

Please, enter game id: 2 

Please, enter the price of next game: 200 

Please, enter game id: -1 

Total price before discount: 300.0SR

Your discount is: 0.0SR

Total price after discount: 300.0SR
```

Lab Exercise 3

We are going to change the previous program to add even more interactivity and logic to it. The new program should present user with an options menu that has two options, to add or sell games as shown below:

- If user choose add then he will be able to add new games to inventory. When adding a game, the user needs to provide the game id only. Adding ends when id entered is -1.
- If user chooses **sell** then program works like previous one except for one thing. You have to make sure that user cannot sell more games than he added. In other words, allow user to sell games until there are no more games in inventory.
- All discount rules from previous program apply here.

(**Note**: at this stage you do not have to match ids when selling and adding since you need *arrays* for this.) Name your class **GameStore3**.

(Note: unlike other primitive data types like int and double, to compare two String variables s1 and s2 use s1.equals(s2). Do NOT use s1 == s2)

Here is a sample run to show different cases:

```
Welcome to Gaming Center :)
               _____
                                            *
    Please enter one of the following options:
    1) add ==> this allows you to add a game to inventory
     2) sell ==> this allows you to sell games to a customer
     3) exit ==> to end this program
Enter your option :> sell 4
Sorry. There are no more games in store :(
Welcome to Gaming Center :)
               _____
    Please enter one of the following options:
     1) add ==> this allows you to add a game to inventory
     2) sell ==> this allows you to sell games to a customer
     3) exit ==> to end this program
Enter your option :> add 4
Please, enter game id (-1 to end): 1 4
```

```
Please, enter game id (-1 to end): 2 4
Please, enter game id (-1 to end): 3 4
Please, enter game id (-1 to end): -1 4
  *****
                  Welcome to Gaming Center :)
                  _____
                                                     *
     Please enter one of the following options:
     1) add ==> this allows you to add a game to inventory
      2) sell ==> this allows you to sell games to a customer
      3) exit ==> to end this program
Enter your option :> sell 4
Please, enter game id (-1 to end): 1 4
Please, enter the price of next game: 100 4
Please, enter game id (-1 to end): 10 4
Please, enter the price of next game: 200 4
Please, enter game id (-1 to end): 6 4
Please, enter the price of next game: 120 4
Can not sell more games. Out of stock :(
Total price before discount: 420.0SR
Your discount is: 84.0SR
Total price after discount: 336.0SR
Welcome to Gaming Center :)
                                                     *
                   -----
     Please enter one of the following options:
     1) add ==> this allows you to add a game to inventory
     2) sell ==> this allows you to sell games to a customer
     3) exit ==> to end this program
Enter your option :> exit 4
Thanks. Goodbye!
```

Lab Exercise 4

Convert your program into an interactive game-store managing program. New program should let the user enter data for a new game sale, calculates the revenue and then asks the user if he wants to continue. If the user answers "yes" program should keep reading game sales and calculating the revenue. It only terminates when user answers "no". (**Bonus**: print total revenue for all sales before terminating program). (**Note**: unlike other primitive data types like **int** and **double**, to compare two **String** variables **s1** and **s2** use **s1.equals(s2)**. Do NOT use **s1** == **s2**

The program asks for the game type ('g' or 'n').

- g : The price of the should be increased by 40%. If the price was 100, it'll be 140. 20% discount if more than 2 games were bought (first game is not included in the discount).
- n : 10% discount if more than 3 games were bought (first and second games are not included in the discount).
- Anything else will get an error message

Here is a sample run of the program

```
Welcome to Gaming Center :).
Please, enter the type of the game: q \leftarrow
Please, enter the price of a game: 100 \neq
Please, enter number of copies: 1 4
Total price is: 140.0
Do you want to continue? yes or no: yes 4
Please, enter the type of the game: q \leftarrow
Please, enter the price of a game: 100 4
Please, enter number of copies: 2 4
Total price is: 280.0
Do you want to continue? yes or no: yes 4
Please, enter the type of the game: q \neq
Please, enter the price of a game: 100 4
Please, enter number of copies: 4 4
Total price is: 476.0
Do you want to continue? yes or no: yes 4
Please, enter the type of the game: n \leftarrow l
Please, enter the price of a game: 100 \neq
Please, enter number of copies: 3 4
Total price is: 300.0
Do you want to continue? yes or no: yes 4
Please, enter the type of the game: n \leftarrow
Please, enter the price of a game: 100 4
Please, enter number of copies: 4 4
Total price is: 380.0
Do you want to continue? yes or no: no 4
Goodbye
```