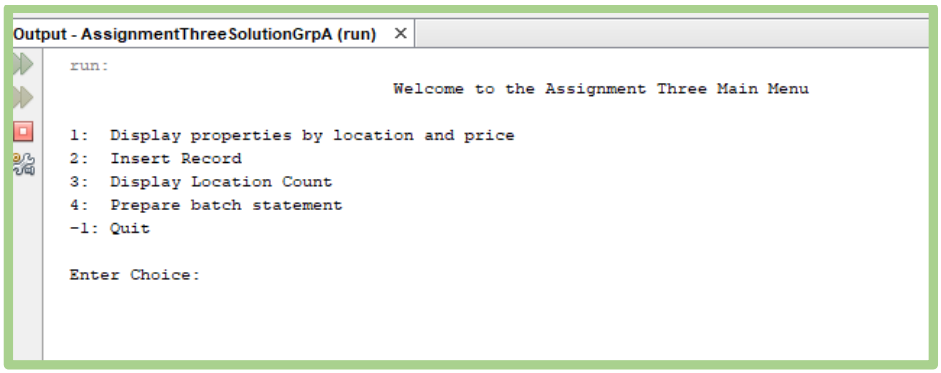
Moylish Properties is a database of properties that are currently for sale in Ireland. The database contains a single table - a *properties* table. The structure of the table along with some sample records are presented below.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	**id**	int(11)			No	*None*		AUTO_INCREMENT
2	**street**	varchar(50)	utf8_general_ci		Yes	*NULL*		
3	**city**	varchar(25)	utf8_general_ci		Yes	*NULL*		
4	**listingNum**	int(11)			Yes	0		
5	**styleId**	int(11)			Yes	0		
6	**bedrooms**	int(11)			Yes	0		
7	**bathrooms**	float			Yes	0		
8	**squarefeet**	int(11)			Yes	0		
9	**berRating**	varchar(2)	utf8_general_ci		No	*None*		
10	**description**	text	utf8_general_ci		Yes	*NULL*		
11	**price**	double			Yes	0		
12	**dateAdded**	datetime			No	*None*		

id	street	city	listingNum	styleId	bedrooms	bathrooms	squarefeet	berRating	description	price	dateAdded
9	34 Ferndale, Ennis Road	Limerick	443499	2	4	1.5	1100	A3	Located in a popular and mature residential estate...	82000	2020-08-19 15:11:27
10	35 Na Cluainte	Portarlington	141136	2	3	2	1700	B2	Ideal for first time buyer/investor.This three bed...	203500	2019-09-12 18:19:00
11	1 Kimberley Villas, Millitary Hill	Cork	598495	5	4	4	1800	F	The property is nestled away half way up Military ...	249900	2019-09-19 07:14:46
12	8 Ashwood, Seacrest, Shangort Road, Knocknacarra	Galway	128365	1	2	1	1200	C1	A wonderful 2 bedroom semi detached bungalow locat...	93900	2020-08-11 08:00:00
13	31 Cnoc An Oir, Lotteragh	Galway	941895	3	2	1.5	1300	C1	This three bed semi detached	89900	2019-08-15 11:14:00

For this assignment you must download a starter Netbeans project from Moodle. The project contains a SQL script that you will need for this assignment. When you execute the script it will create a user called "*testuser*" with a password of "*pass*". **Use this username/password combination for this assignment.** This starter project also contains a class called *Main*. When you run this class, it presents the user with a menu like the following:



Task 1:

If the user selects **option 1**, they will be prompted to enter three values from the keyboard:

1. A City.
2. A lower price limit.
3. An upper price limit.

These values represent search criteria.

A method called ***displayByPrice ()*** will then be called and the values entered at the keyboard will be passed to this method. Here you must search and display all properties that match the specified *city* and have a price within the *upper* and *lower limit* values. When displaying the data ensure that, the records are ordered by price in ascending order.

If no records are returned from the database, a suitable error message must be displayed instead.

(There are two properties in Limerick between €150,000 and €250,000). See FIG 1 for an example of this task running.

(30 Marks)

Task 2:

If the user selects **option 2**, they will be prompted to enter a series of values. These values will be passed to a method called ***insertRecord().*** This method must then use a prepared statement to insert the data as a new record into the *properties* table. For any records that are inserted into the database you must ensure that the current date and time will be used for the *dateAdded* field. Once the record has been inserted, you should print a confirmation message to the screen. *See FIG 2 for an example of this task running.*

(30 Marks)

Task 3:

If the user selects option 3, a method called ***displayLocCount ()*** *is called*. This method will then print a count of the total number of property's at each city/location. This information will be order by the value of the count in descending order and then the city in ascending order.

See FIG 3 for an example of this task running.

(20 Marks)

Task 4:

If the user selects **option 4**, a method called ***prepareBatch ()*** will be called. In this method you must write the code to add three SQL statements to a batch.

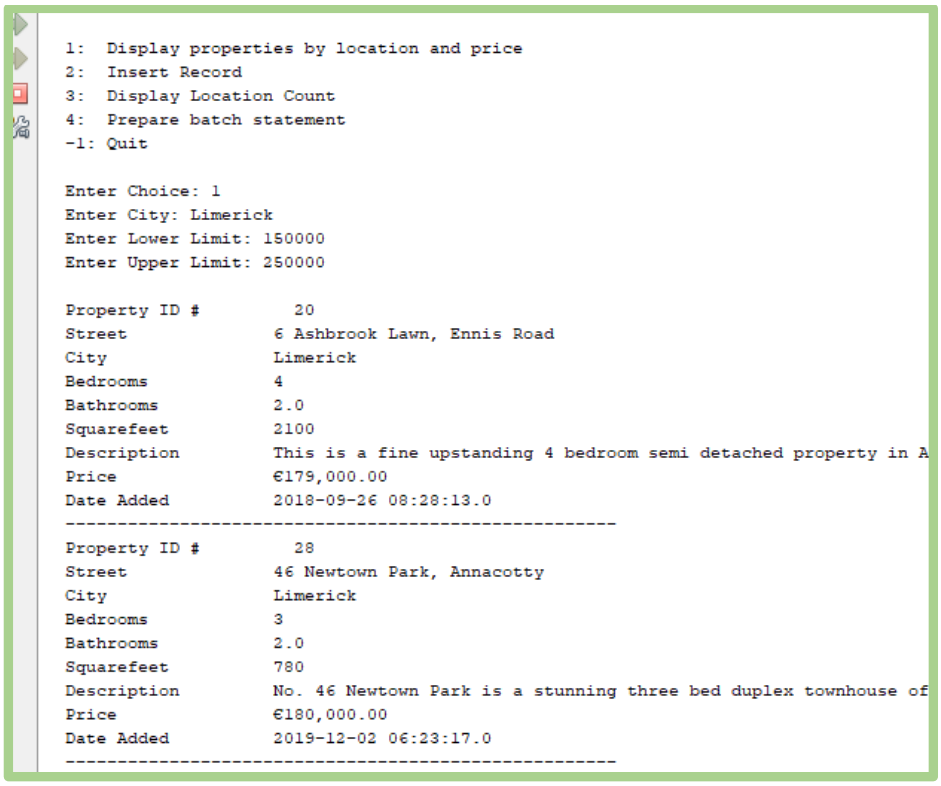
- The first statement you add (to the batch) must *increase* the price of any properties in Limerick by 10%.
- The first statement you add (to the batch) must *decrease* the price of any properties in Kilkenny by 15%.
- Delete any properties that have a listing date of 2018 or earlier.

After the statements within the batch have executed, you must print the status of each of them to the screen. *See FIG 4 for an example of this task running.*

(20 Marks)

NOTE: Any projects that contain syntax errors will receive a mark of 0.

Sample Run of Application.

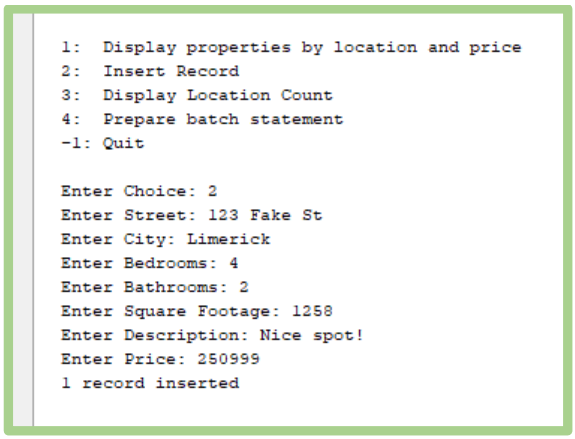


```
1:  Display properties by location and price
2:  Insert Record
3:  Display Location Count
4:  Prepare batch statement
-1: Quit

Enter Choice: 1
Enter City: Limerick
Enter Lower Limit: 150000
Enter Upper Limit: 250000

Property ID #         20
Street              6 Ashbrook Lawn, Ennis Road
City                Limerick
Bedrooms            4
Bathrooms           2.0
Squarefeet          2100
Description         This is a fine upstanding 4 bedroom semi detached property in A
Price               €179,000.00
Date Added          2018-09-26 08:28:13.0
----------------------------------------------------
Property ID #         28
Street              46 Newtown Park, Annacotty
City                Limerick
Bedrooms            3
Bathrooms           2.0
Squarefeet          780
Description         No. 46 Newtown Park is a stunning three bed duplex townhouse of
Price               €180,000.00
Date Added          2019-12-02 06:23:17.0
----------------------------------------------------
```

FIG 1



```
1:  Display properties by location and price
2:  Insert Record
3:  Display Location Count
4:  Prepare batch statement
-1: Quit

Enter Choice: 2
Enter Street: 123 Fake St
Enter City: Limerick
Enter Bedrooms: 4
Enter Bathrooms: 2
Enter Square Footage: 1258
Enter Description: Nice spot!
Enter Price: 250999
1 record inserted
```

FIG 2

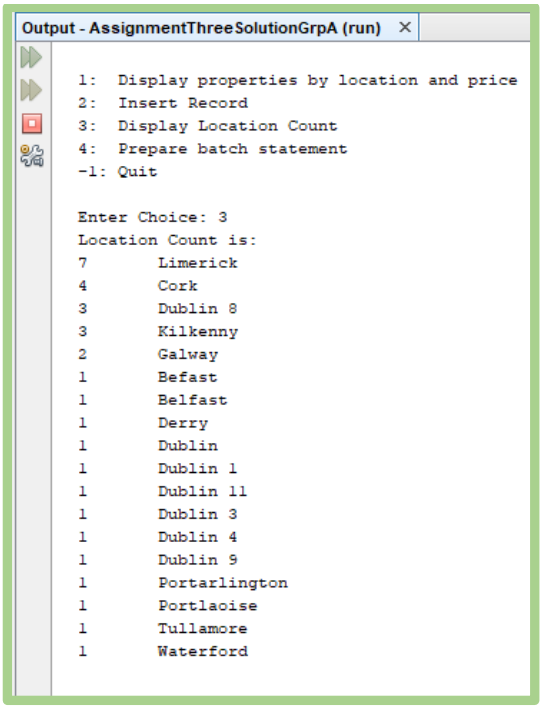

Output - AssignmentThreeSolutionGrpA (run)
1: Display properties by location and price
2: Insert Record
3: Display Location Count
4: Prepare batch statement
-1: Quit
Enter Choice: 3
Location Count is:
7 Limerick
4 Cork
3 Dublin 8
3 Kilkenny
2 Galway
1 Befast
1 Belfast
1 Derry
1 Dublin
1 Dublin 1
1 Dublin 11
1 Dublin 3
1 Dublin 4
1 Dublin 9
1 Portarlington
1 Portlaoise
1 Tullamore
1 Waterford

FIG 3

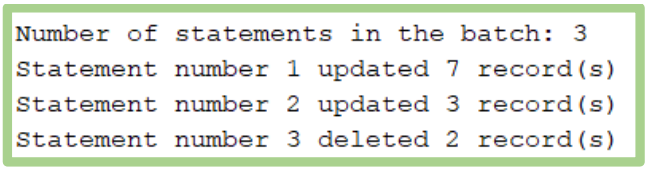

Number of statements in the batch: 3
Statement number 1 updated 7 record(s)
Statement number 2 updated 3 record(s)
Statement number 3 deleted 2 record(s)

FIG 4