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Student Name: Faisal Majed Alghamdi

Student ID Number: 447001625

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Student Name: Ammar Saad Alamri

Student Number: 447001588

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Lab 8

Lab Task

Create a menu-driven Java program using HashMap<Integer, String>. The program must support:

- 1. Insert a new element (integer key and string value).
- 2. Update the value of an existing key.
- 3. Delete an element using its key.
- 4. Print all elements as key–value pairs.
- 5. Exit the program.

Implementation Instructions

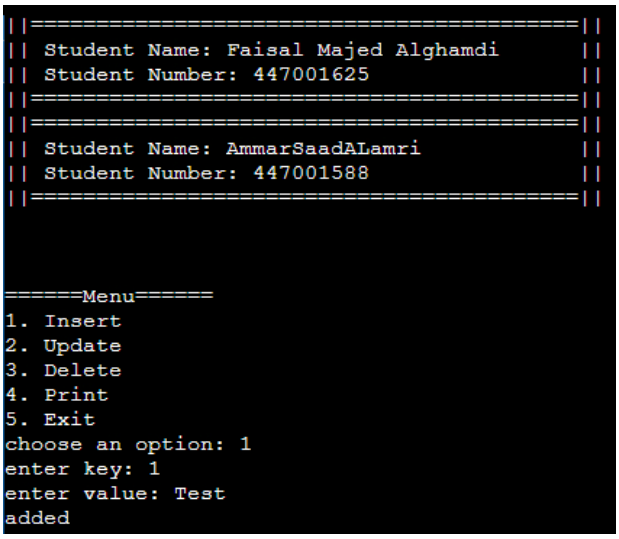
- Display the menu repeatedly until the user chooses Exit.
- Read the key and value from the user for insertion.
- For Update and Delete, check whether the key exists and display an appropriate message if it does not.
- Display a clear message when the HashMap is empty.
- Use appropriate HashMap methods such as put(), containsKey(), remove(), and entrySet().
- The printed order of the elements may differ from the sample output.

Deliverables and Submission

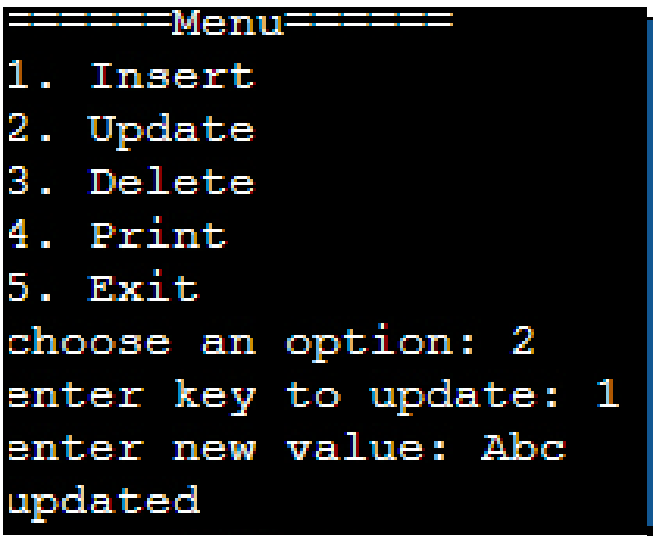
- Java source file (.java): submit the complete Java class containing your solution.
- Submit a screenshot showing successful execution for all methods and output.
- Include all group members' names and student IDs.
- Half a mark will be deducted for late submission, incomplete submission, or absence without an excuse.

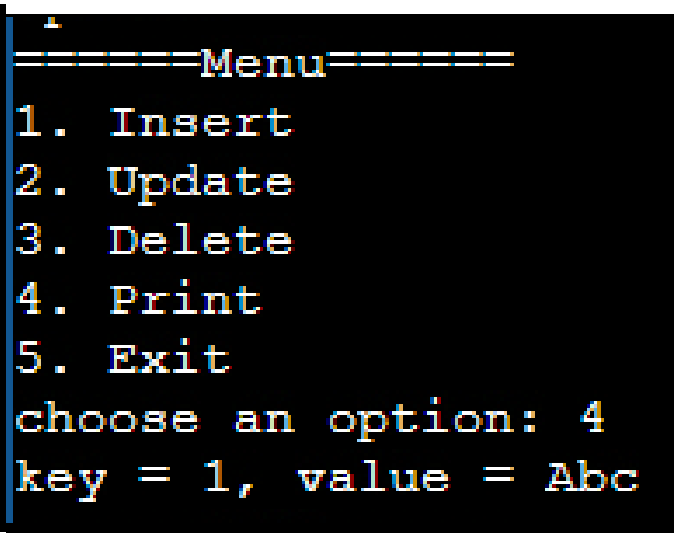
Output

1 Insert



2 Update





3) Delete

```
======Menu======
1. Insert
2. Update
3. Delete
4. Print
5. Exit
choose an option: 3
enter key to delete: 1
deleted
```

4) print

```
======Menu======
1. Insert
2. Update
3. Delete
4. Print
5. Exit
choose an option: 4
hashmap is empty
```

5) Exit

```
======Menu======
1. Insert
2. Update
3. Delete
4. Print
5. Exit
choose an option: 5


...Program finished with exit code 0
Press ENTER to exit console.
```

6) invalid input

```
||==========================================||
|| Student Name: Faisal Majed Alghamdi      ||
|| Student Number: 447001625                ||
||==========================================||
||==========================================||
|| Student Name: AmmarSaadALamri            ||
|| Student Number: 447001588                ||
||==========================================||



======Menu======
1. Insert
2. Update
3. Delete
4. Print
5. Exit
choose an option: 6
invalid option
```