

JAVA - Mid Semester Take Home Exam

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ref: <https://studump.payperlez.com>

1. Write a Java program that generates random numbers with your ID as the Class Name.

Use a Do-While loop and a method to display a Menu Interface with the following options

1 - Register

2 - View

When the user selects option 1:

The program must ask the user to register by taking the following details with the help of a method called Register

a. Index Number

b. First Name

c. Last Name

d. Department

e. Level

f. Age

This information must be written to a text file called Random Numbers.

The program must now use a For loop to generate the random numbers with the users age as the seed in the following format: XXXX - XXXX - XXXX (where X can be any alphanumeric character)

When the user selects option 2:

The program asks for the users Index Number

The program checks if a random number has been generated for the user previously in the text

file.

If Yes: the program displays the Random Number

If No: the program displays an error message using Try-Catch and displays the menu screen again.

Rubric (40 marks):

Program...

1. executes without error - 0:5 marks
2. uses a Do-While loop to display menu - 0:3 marks
3. uses a method to display menu items - 0:3 marks
4. collects all user details as required - 0:5 marks
5. stores user details in a text file called Random Numbers - 0:5 marks
6. generates Random Numbers using the seed required - 0:3 marks
7. generates Random Numbers in the format required - 0:3 marks
8. is able to display Random Numbers for registered users - 0:5 marks
9. displays appropriate error message if required using Try-Catch - 0:3 marks
10. is typed to follow recommended style and conventions - 0:5 marks

```
import java.io.File;
```

```
import java.io.FileWriter;
```

```
import java.io.IOException;
```

```
import java.io.PrintWriter;
import java.nio.file.Files;
import java.nio.file.Paths;
import java.util.Scanner;
import java.util.Random;

public class YouyIDhere {

    public static void main(String[] args) throws IOException {
        Scanner scanner = new Scanner(System.in);

        do {
            int choice;
            Menu();
            choice = scanner.nextInt();

            if (choice == 1) {
                Register();
            }

            else if (choice == 2) {
                option2();
            }
        } while (true);
    }
}
```

```
}
```

```
public static void Menu() throws IOException {  
    System.out.println("MENU");  
    System.out.println("1) Registr");  
    System.out.println("2) View\n");  
    System.out.println("Choose option : ");  
}
```

```
public static void Register() throws IOException {  
  
    Scanner scanner = new Scanner(System.in);  
  
    int idNum;  
  
    int age2;  
  
    int level1;  
  
    String Name1;  
  
    String Name2;  
  
    String depart1;  
  
  
    System.out.println("Enter your Index Number: ");  
  
    idNum = scanner.nextInt();  
  
  
  
    System.out.println("Enter your First Name: ");
```

```
Name1 = scanner.next();
```

```
System.out.println("Enter your Last Name: ");
```

```
Name2 = scanner.next();
```

```
System.out.println("Enter your Department: ");
```

```
depart1 = scanner.next();
```

```
System.out.println("Enter your Level: ");
```

```
level1 = scanner.nextInt();
```

```
System.out.println("Enter your Age: ");
```

```
age2 = scanner.nextInt();
```

```
String str = "j5p238h";
```

```
String m = "";
```

```
String n = "";
```

```
String o = "";
```

```
int size = 4;
```

```
Random rand = new Random();
```

```
rand.setSeed(age2);
```

```
char [] q = new char[size];
```

```
char [] r = new char[size];  
char [] s = new char[size];  
  
for(int i = 0; i < size; i++) {  
    q[i] = str.charAt(rand.nextInt(str.length()));  
  
}  
  
for(int i = 0; i < size; i++) {  
    m+=q[i];  
  
}  
  
for(int j = 0; j < size; j++) {  
    r[j] = str.charAt(rand.nextInt(str.length()));  
  
}  
  
for(int j = 0; j < size; j++) {  
    n+=r[j];  
  
}  
  
for(int b = 0; b < size; b++) {  
    s[b] = str.charAt(rand.nextInt(str.length()));
```

```
}
```

```
for(int b = 0; b < size; b++) {
```

```
    o+=s[b];
```

```
}
```

```
String finalstr = (m + "-" + n + "-" + o);
```

```
System.out.println("\nYour random generated number is :: " + finalstr);
```

```
File file = new File("Random Numbers.txt");
```

```
FileWriter fw = new FileWriter(file);
```

```
PrintWriter pw = new PrintWriter(fw);
```

```
pw.println(idNum);
```

```
pw.println(finalstr);
```

```
pw.println(Name1);
```

```
pw.println(Name2);
```

```
pw.println(depart1);
```

```
pw.println(level1);
```

```
pw.println(age2);
```

```
pw.close();
```

```
}
```

```
public static void option2() throws IOException {
```

```
    try{
```

```
        Scanner input = new Scanner(System.in);
```

```
        System.out.print ("Enter Index Number: ");
```

```
        String check = input.next();
```

```
        String id = Files.readAllLines(Paths.get("Random Numbers.txt")).get(1);
```

```
        String compare = Files.readAllLines(Paths.get("Random Numbers.txt")).get(0);
```

```
        if (check.equals(compare)){
```

```
            System.out.println("Generated number is: " + id);
```

```
        }
```

```
        else {
```

```
            throw new Exception();
```

```
        }
```

```
    }catch (Exception e){
```

```
        System.out.println("couldn't find index number, please register");
```

```
    }
```


}

}