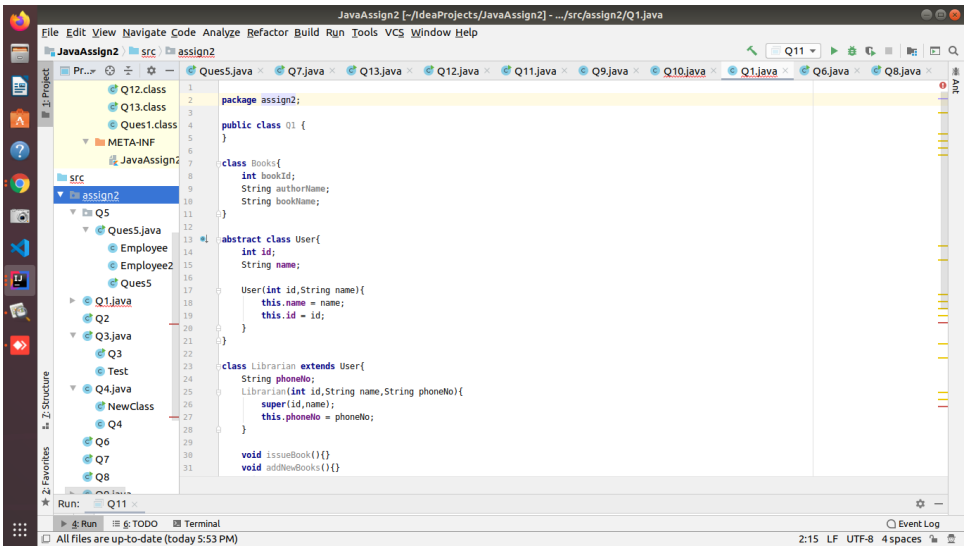
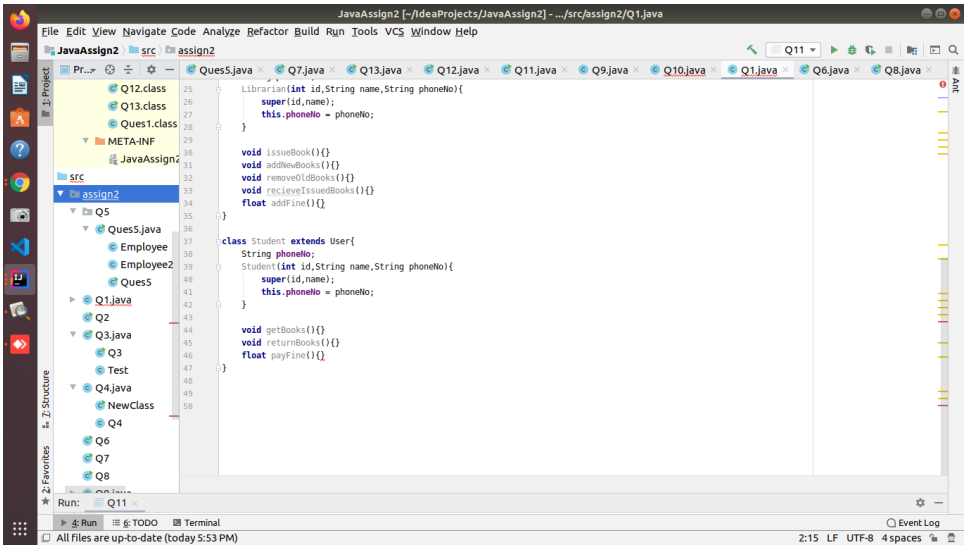
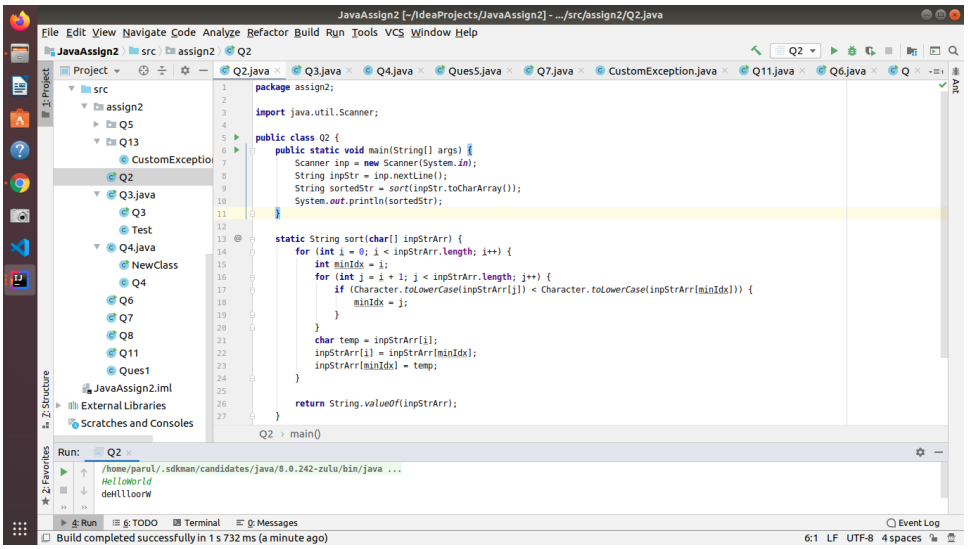
Question: 1:
Create Java classes having suitable attributes for Library management system.Use OOPs concepts in your design.Also try to use interfaces and abstract classes.

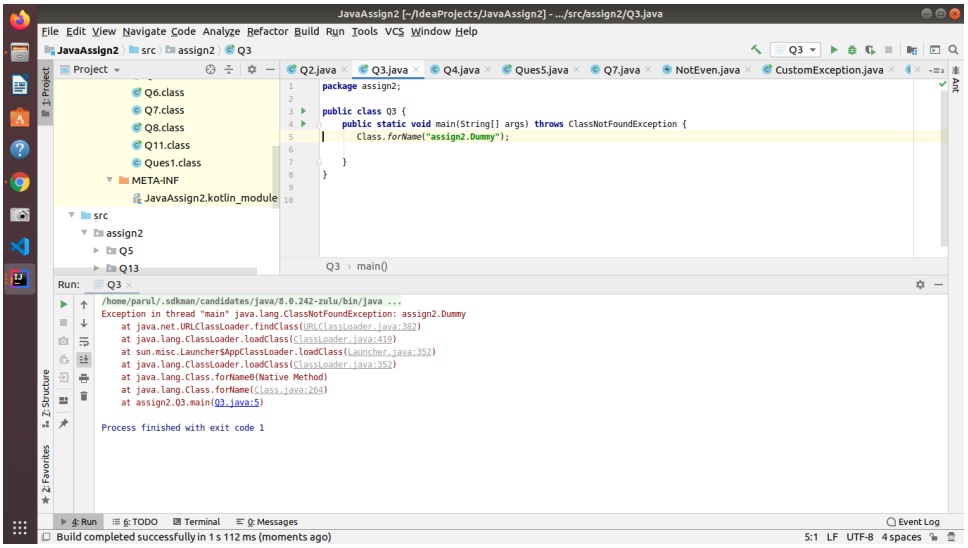


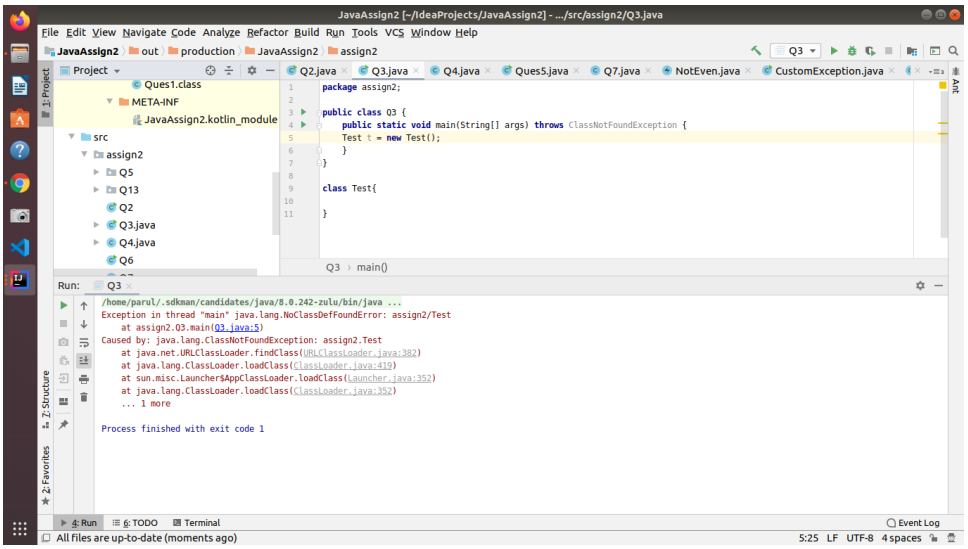




Question: 2:
WAP to sorting string without using string Methods?

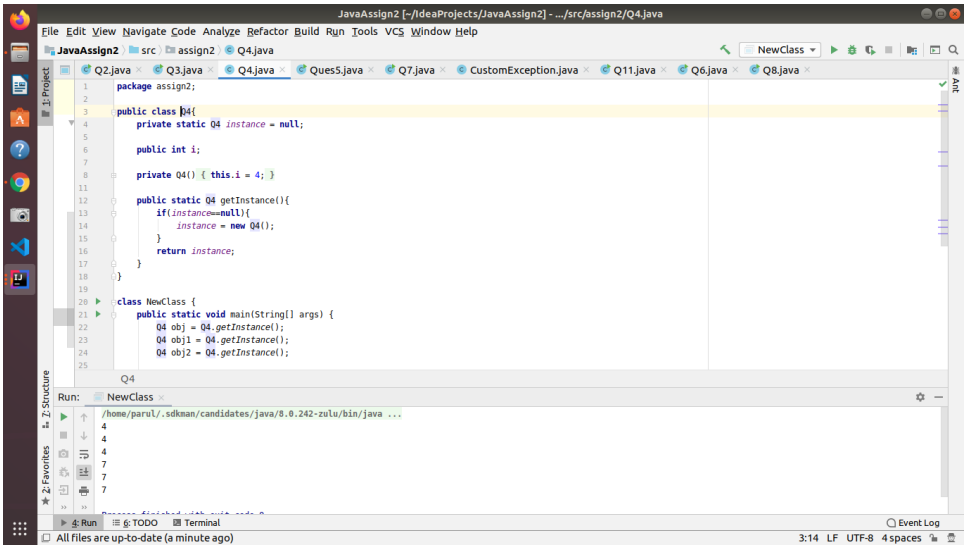


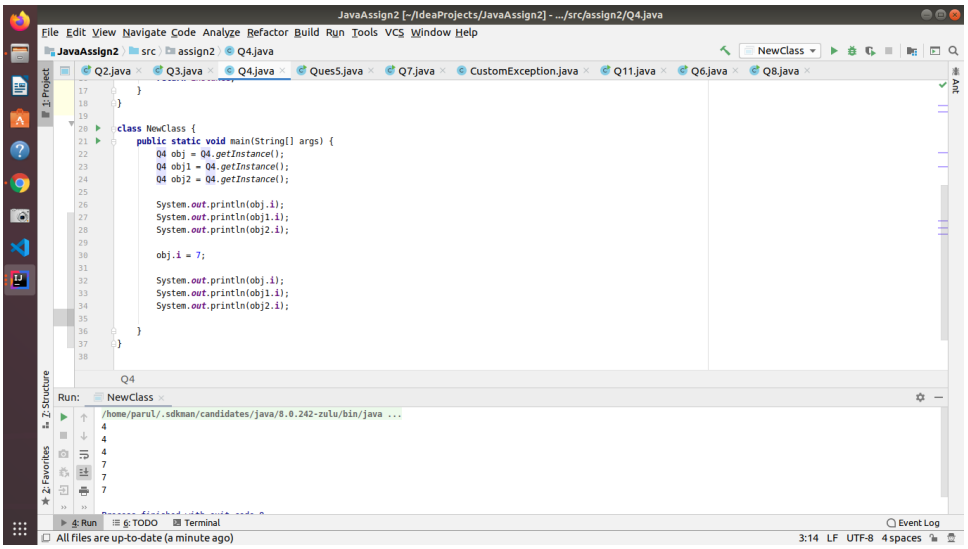

Question: 3:
WAP to produce NoClassDefFoundError and ClassNotFoundException exception.



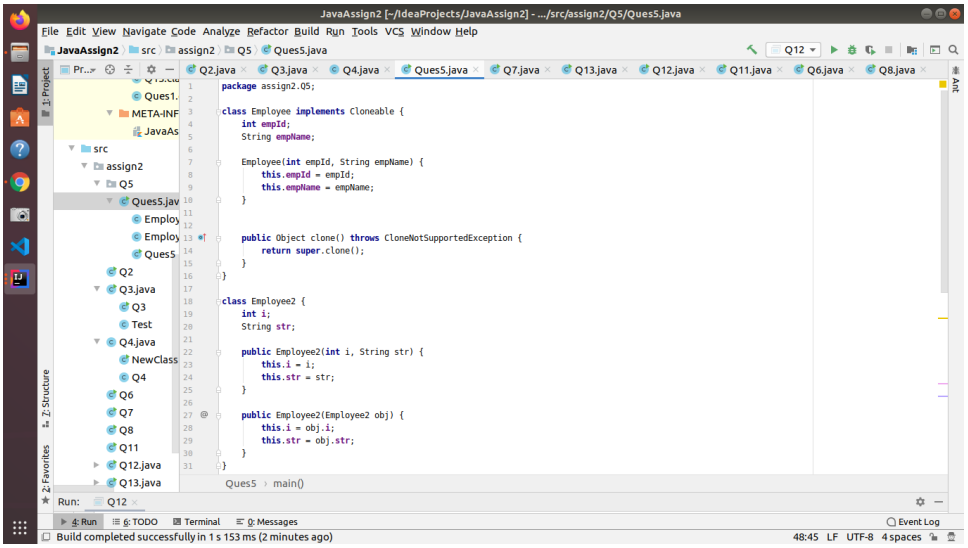


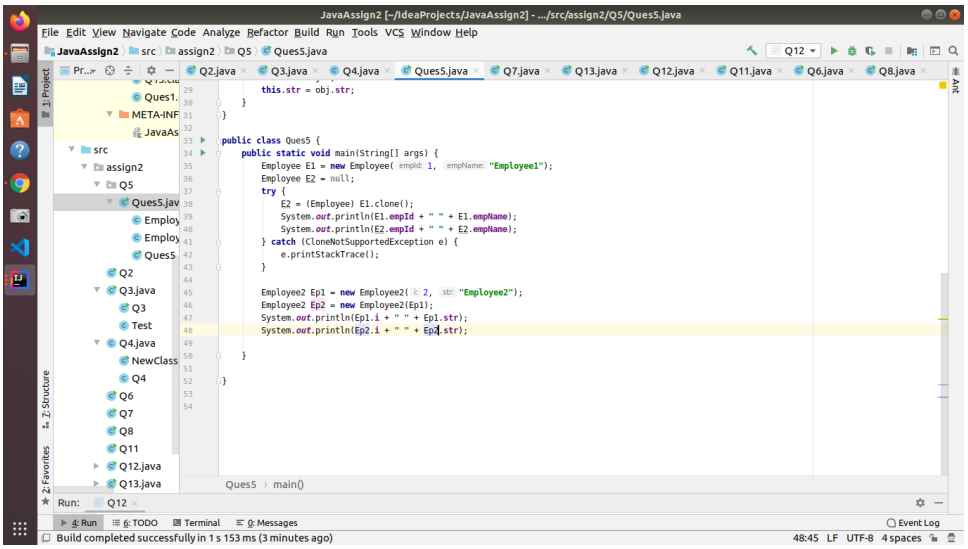

Question: 4:
WAP to create singleton class.

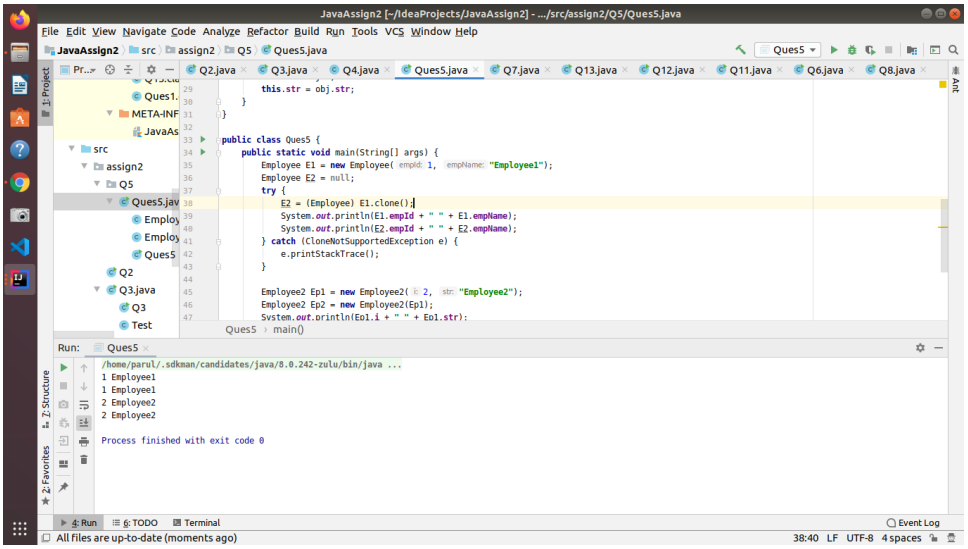





Question: 5:
WAP to show object cloning in java using cloneable and copy constructor both.

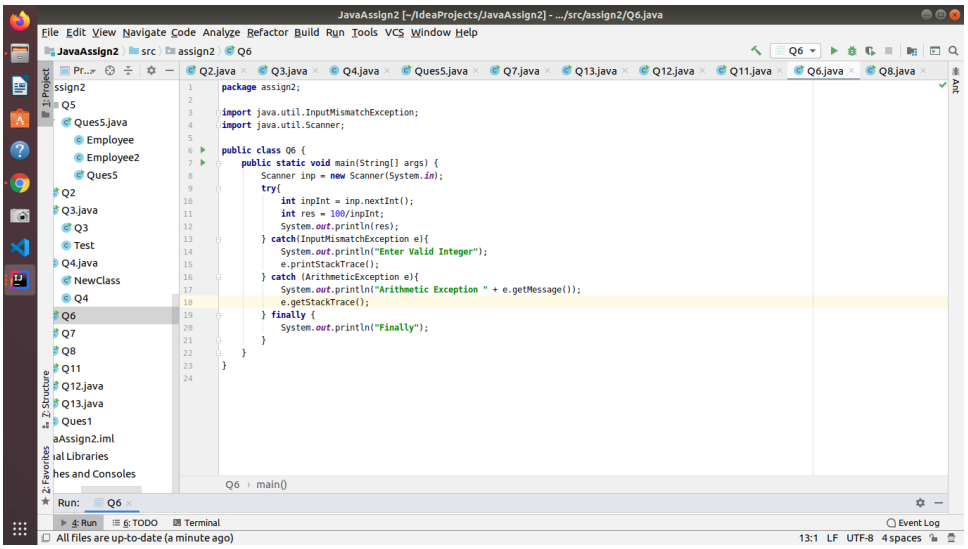


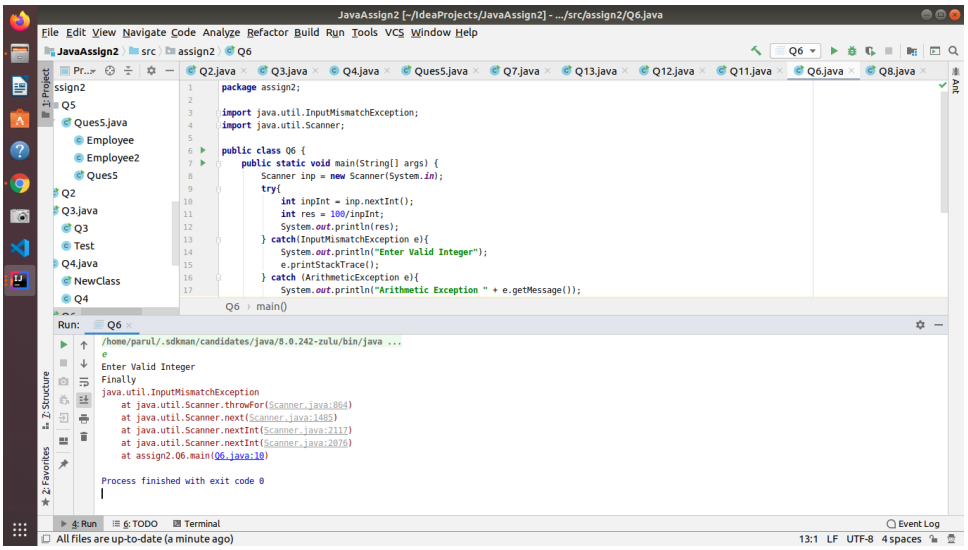


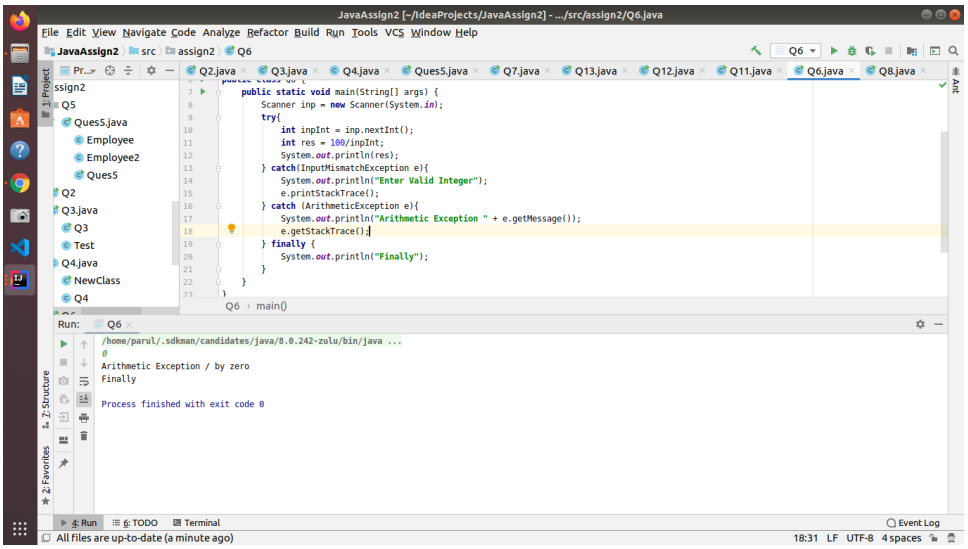




Question: 6:

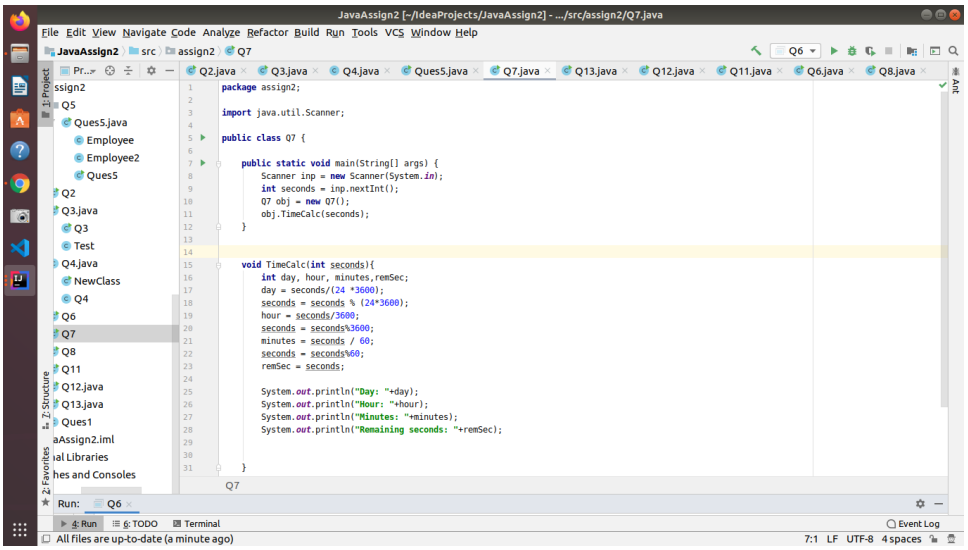
WAP showing try, multi-catch and finally blocks.

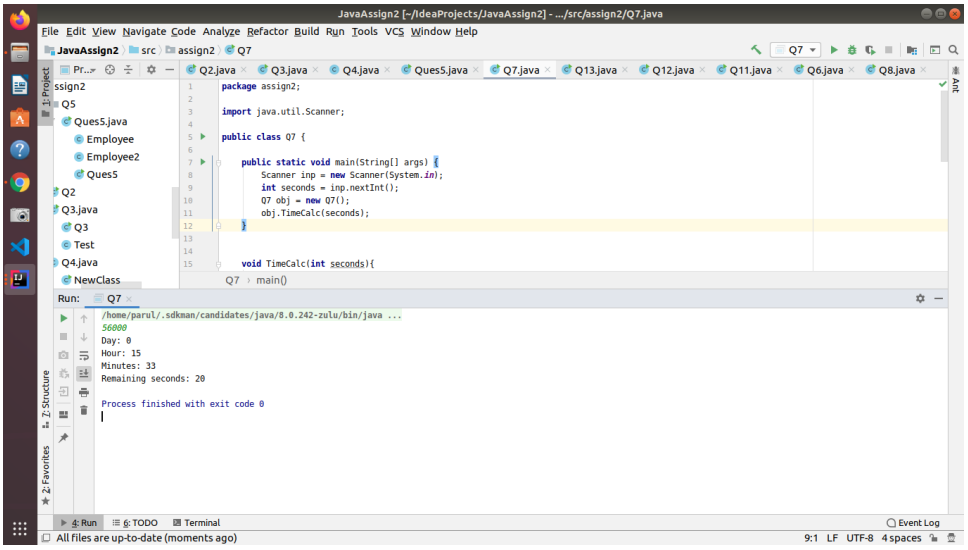

JavaAssign2 [~/IdeaProjects/JavaAssign2] - .../src/assign2/Q6.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
JavaAssign2 › src › assign2 › Q6
Q2.java Q3.java Q4.java Ques5.java Q7.java Q13.java Q12.java Q11.java Q6.java Q8.java
1: Project
2: Favorites
7: Structure
Ant
Q6 › main()
Run: Q6
4: Run 6: TODO Terminal Event Log
All files are up-to-date (a minute ago)
13:1 LF UTF-8 4 spaces


JavaAssign2 [~/IdeaProjects/JavaAssign2] - .../src/assign2/Q6.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
JavaAssign2 › src › assign2 › Q6
Q2.java Q3.java Q4.java Ques5.java Q7.java Q13.java Q12.java Q11.java Q6.java Q8.java
1: Project
2: Favorites
7: Structure
Ant
Q6 › main()
Run: Q6
/home/parul/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
e
Enter Valid Integer
Finally
java.util.InputMismatchException
at java.util.Scanner.throwFor(Scanner.java:864)
at java.util.Scanner.next(Scanner.java:1485)
at java.util.Scanner.nextInt(Scanner.java:2117)
at java.util.Scanner.nextInt(Scanner.java:2076)
at assign2.Q6.main(Q6.java:10)
Process finished with exit code 0
4: Run 6: TODO Terminal Event Log
All files are up-to-date (a minute ago)
13:1 LF UTF-8 4 spaces

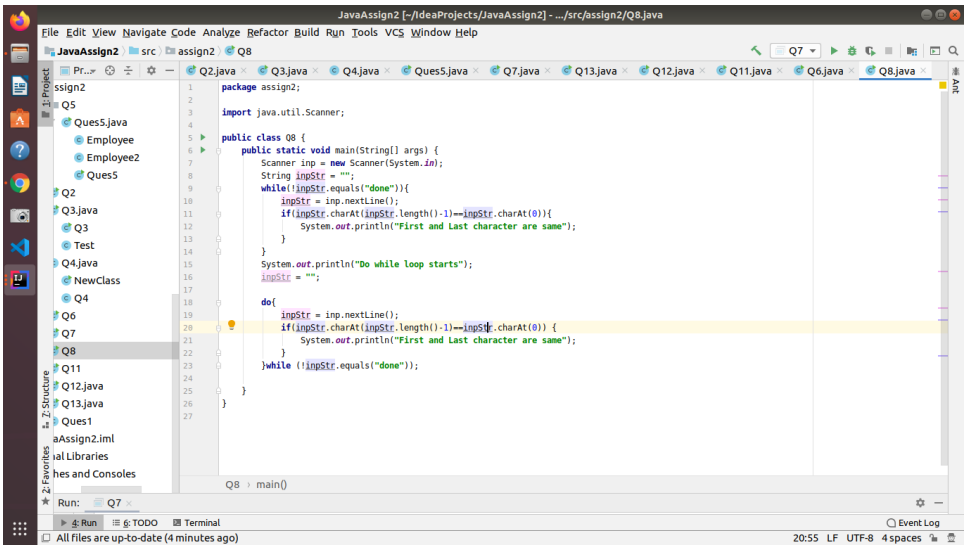

JavaAssign2 [~/IdeaProjects/JavaAssign2] - .../src/assign2/Q6.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
JavaAssign2 › src › assign2 › Q6
Q2.java Q3.java Q4.java Ques5.java Q7.java Q13.java Q12.java Q11.java Q6.java Q8.java
1: Project
2: Favorites
7: Structure
Ant
Q6 › main()
Run: Q6
/home/parul/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
0
Arithmetic Exception / by zero
Finally
Process finished with exit code 0
4: Run 6: TODO Terminal Event Log
All files are up-to-date (a minute ago)
18:31 LF UTF-8 4 spaces

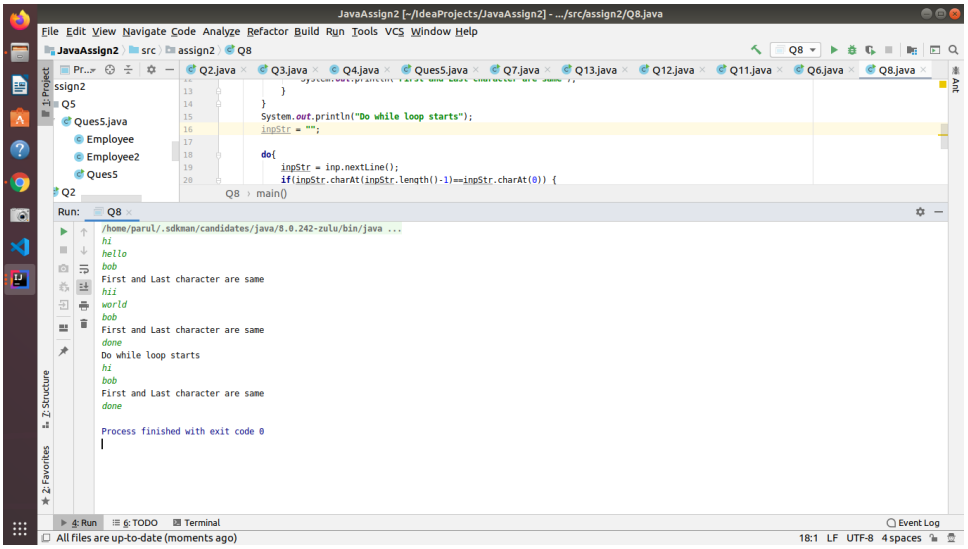
Question: 7:
WAP to convert seconds into days, hours, minutes and seconds.



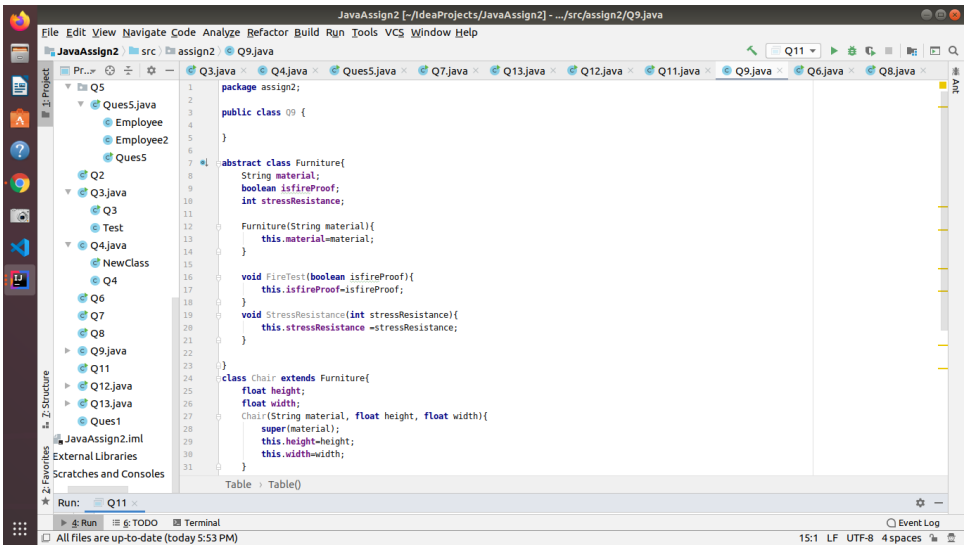

Question: 8:
WAP to read words from the keyboard until the word done is entered. For each word except done, report whether its first character is equal to its last character. For the required loop, use a)while statement b)do-while statement

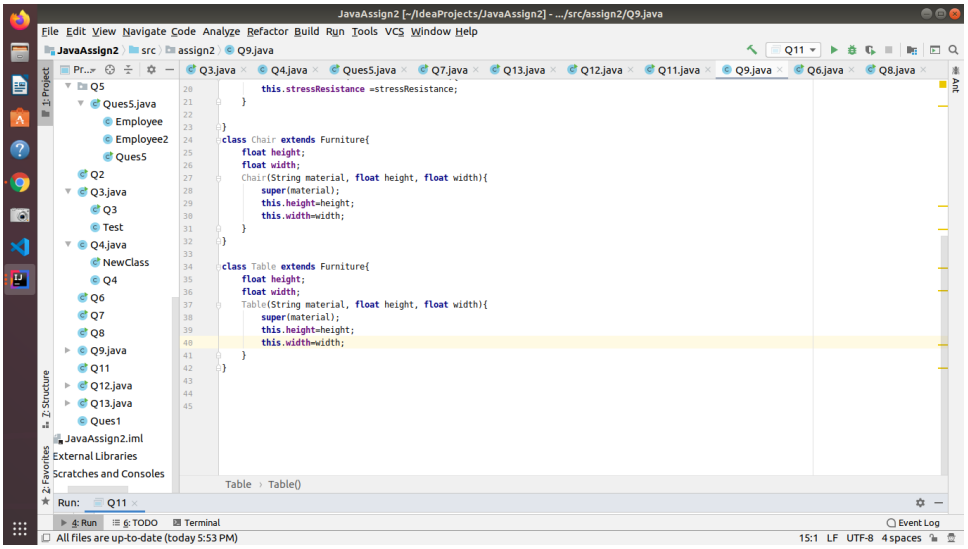



Question: 9:

Design classes having attributes for furniture where there are wooden chairs and tables, metal chairs and tables. There are stress and fire tests for each products.




Question: 10:

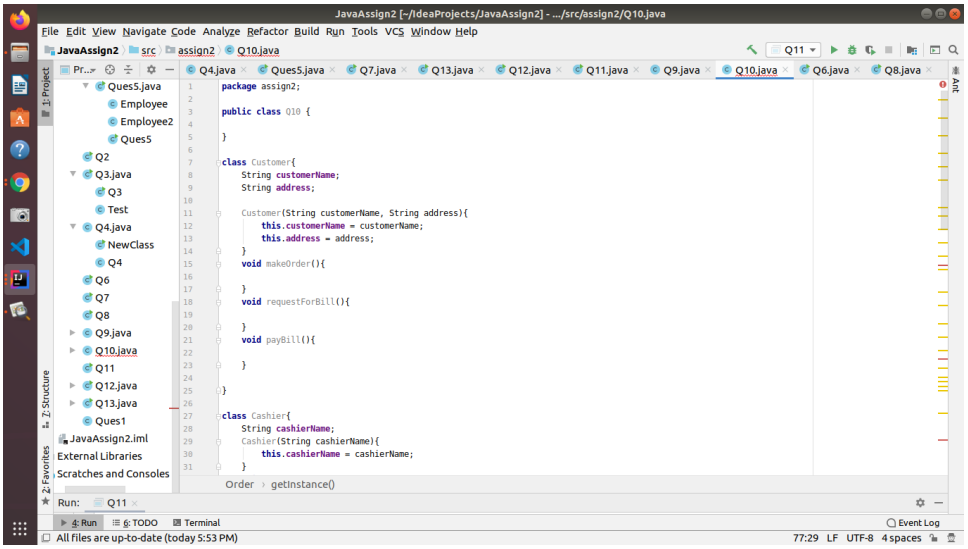
Design classes having attributes and method(only skeleton) for a coffee shop. There are three different actors in our scenario and i have listed the different actions they do also below.

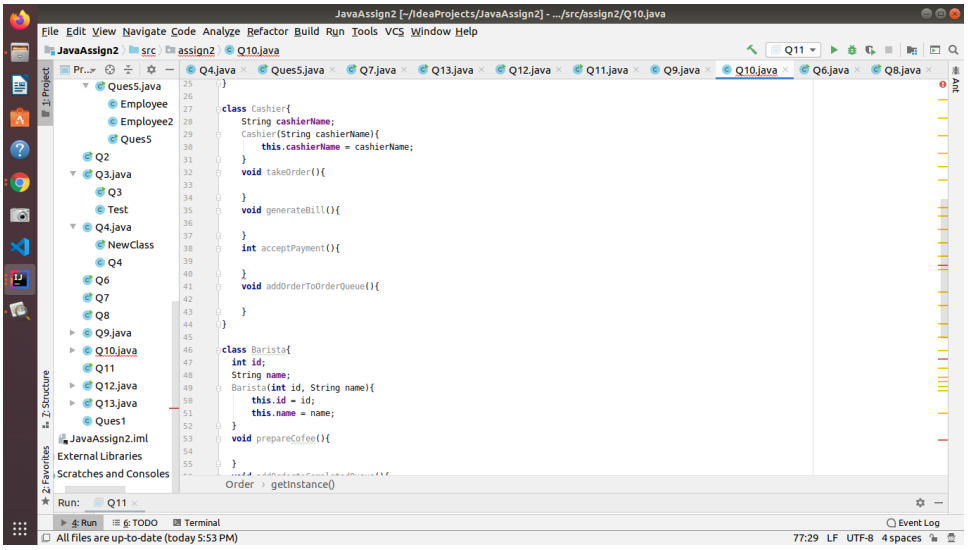
* Customer
 - Pays the cash to the cashier and places his order, get a token number back
 - Waits for the intimation that order for his token is ready
 - Upon intimation/notification he collects the coffee and enjoys his drink
 ( Assumption: Customer waits till the coffee is done, he wont timeout and cancel the order. Customer always likes the drink served. Exceptions like he not liking his coffee, he getting wrong coffee are not considered to keep the design simple.)

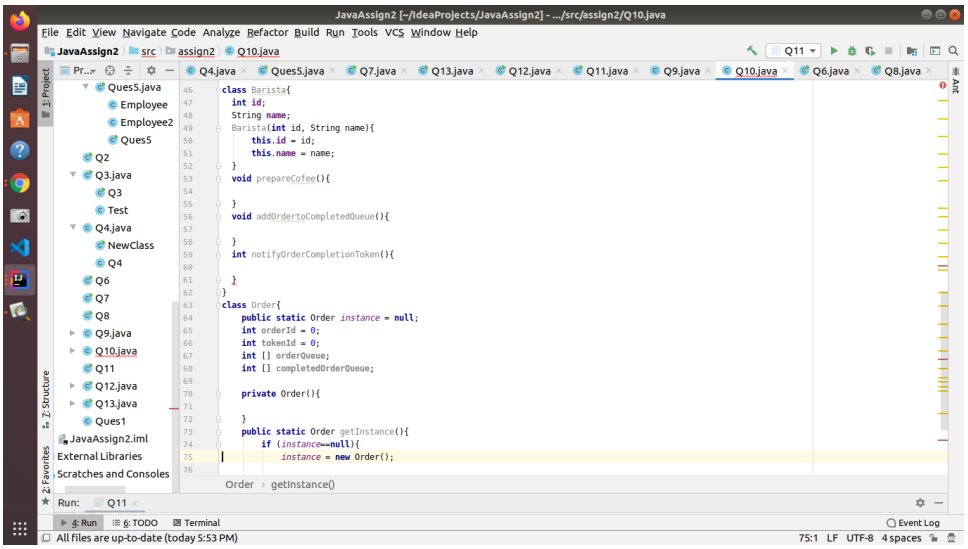
* Cashier
- Takes an order and payment from the customer
- Upon payment, creates an order and places it into the order queue

- Intimates the customer that he has to wait for his token and gives him his token
( Assumption: Token returned to the customer is the order id. Order queue is unlimited. With a simple modification, we can design for a limited queue size)

* Barista
- Gets the next order from the queue
- Prepares the coffee
- Places the coffee in the completed order queue
- Places a notification that order for token is ready

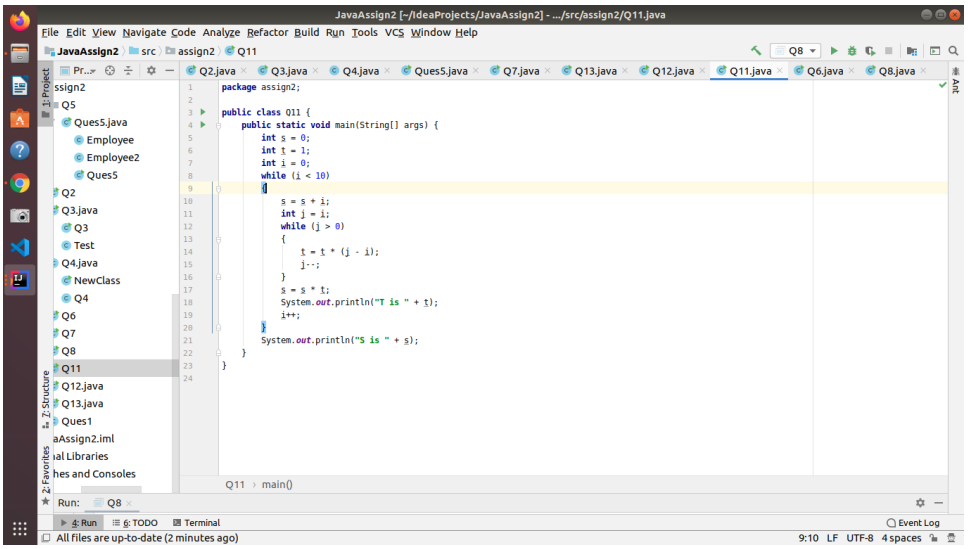


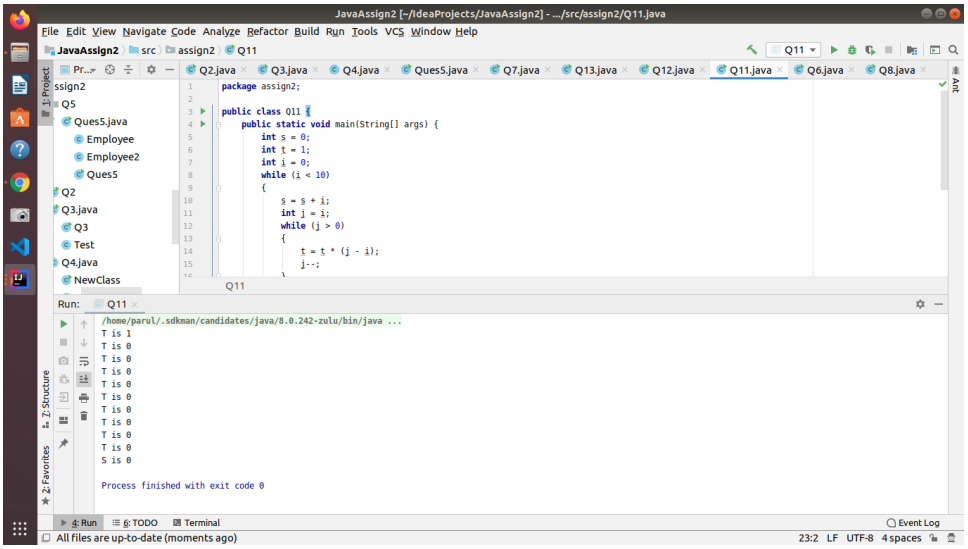






Question: 11:
Convert the following code so that it uses nested while statements instead of for statements:

```
int s = 0;
int t = 1;
for (int i = 0; i < 10; i++)
{
s = s + i;
for (int j = i; j > 0; j−−)
{
t = t * (j - i);
}
s = s * t;
System.out.println("T is " + t);
}
System.out.println("S is " + s);
```



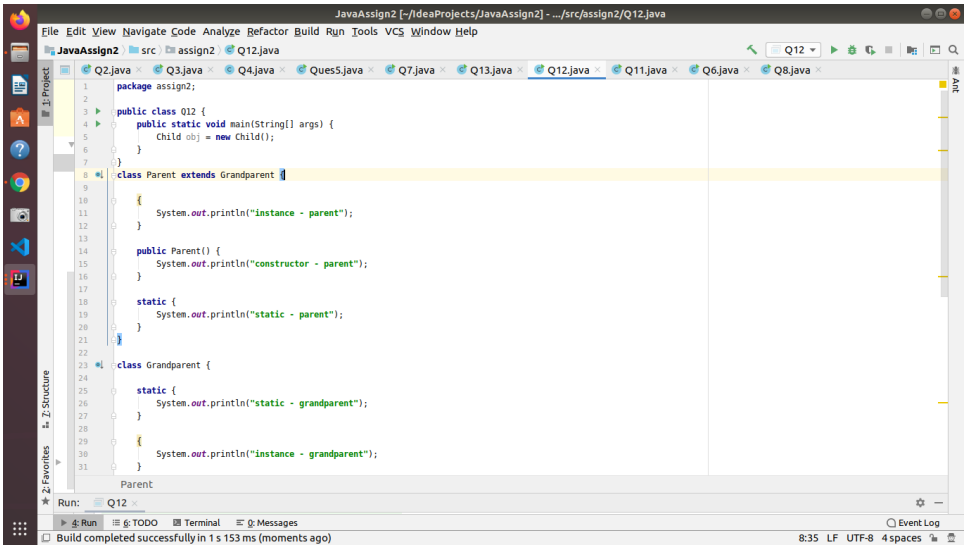



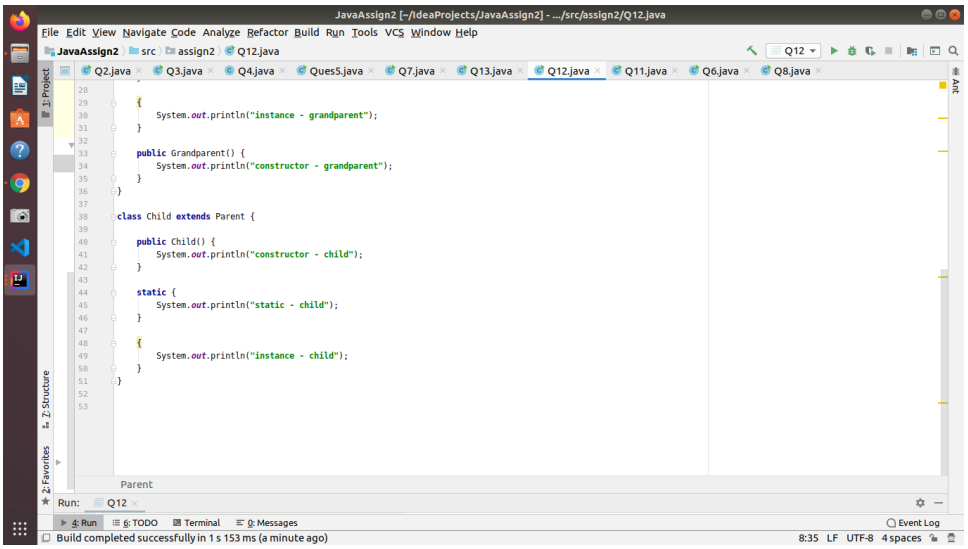

Question: 12:

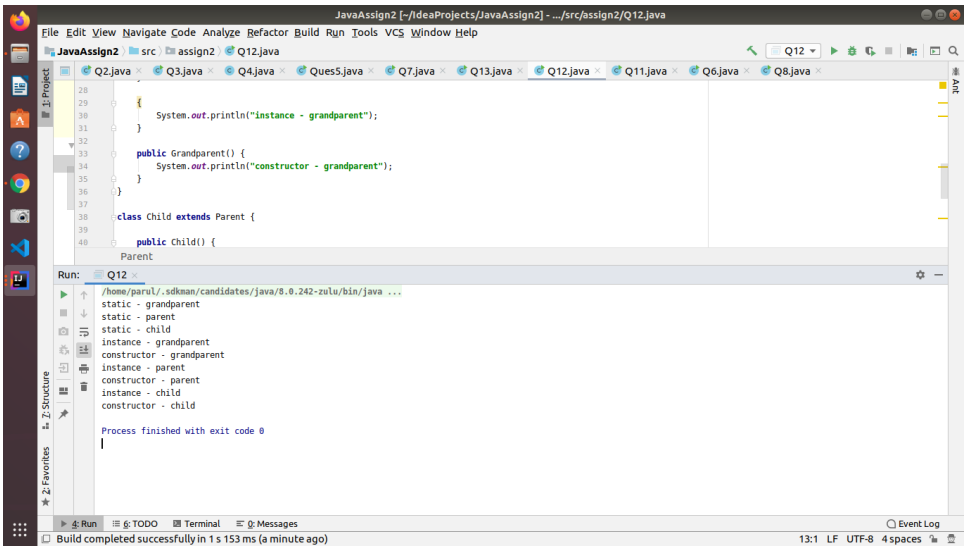
What will be the  output on new Child(); ?

```
   class Parent extends Grandparent {


{
System.out.println("instance - parent");
}

public Parent() {
System.out.println("constructor - parent");
}

static {
System.out.println("static - parent");
```

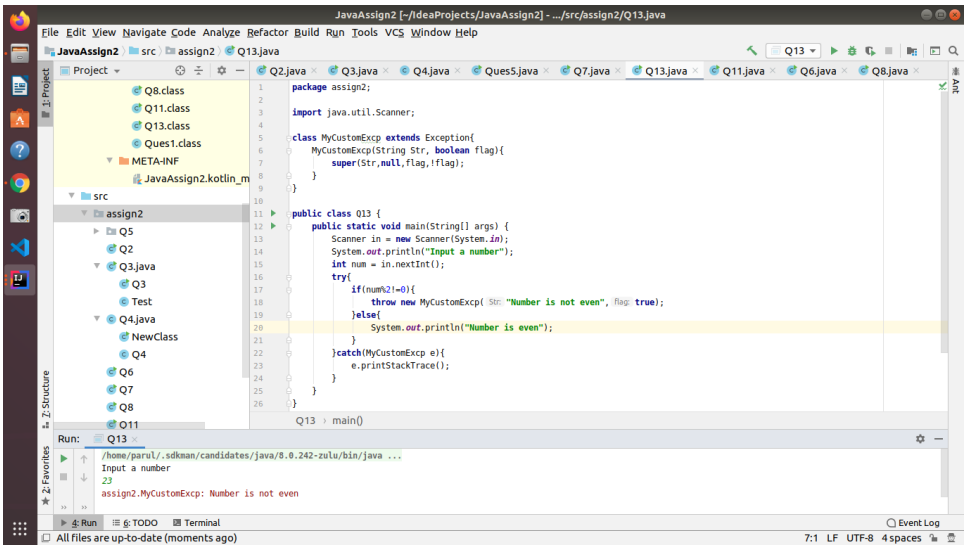
```
}
}

class Grandparent {
static {
System.out.println("static – grandparent");

}

{
System.out.println("instance - grandparent");
}

public Grandparent() {
System.out.println("constructor - grandparent");
}
}

class Child extends Parent {

public Child() {
System.out.println("constructor - child");
}

static {
System.out.println("static - child");
}{
System.out.println("instance - child");
}
}
```






Question: 13:
Create a custom exception that do not have any stack trace.


JavaAssign2 [~/IdeaProjects/JavaAssign2] - .../src/assign2/Q13.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
JavaAssign2 › src › assign2 › Q13.java
Project
Q8.class
Q11.class
Q13.class
Ques1.class
META-INF
JavaAssign2.kotlin_m
src
assign2
Q5
Q2
Q3.java
Q3
Test
Q4.java
NewClass
Q4
Q6
Q7
Q8
Q11
Q2.java
Q3.java
Q4.java
Ques5.java
Q7.java
Q13.java
Q11.java
Q6.java
Q8.java
package assign2;
import java.util.Scanner;
class MyCustomExcp extends Exception{
MyCustomExcp(String Str, boolean flag){
super(Str,null,flag,!flag);
}
}
public class Q13 {
public static void main(String[] args) {
Scanner in = new Scanner(System.in);
System.out.println("Input a number");
int num = in.nextInt();
try{
if(num%2!=0){
throw new MyCustomExcp( Str: "Number is not even", flag: true);
}else{
System.out.println("Number is even");
}
}catch(MyCustomExcp e){
e.printStackTrace();
}
}
}
Q13 › main()
Run: Q13
/home/parul/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Input a number
23
assign2.MyCustomExcp: Number is not even
4: Run
6: TODO
Terminal
Event Log
All files are up-to-date (moments ago)
7:1 LF UTF-8 4 spaces

Question: 15: