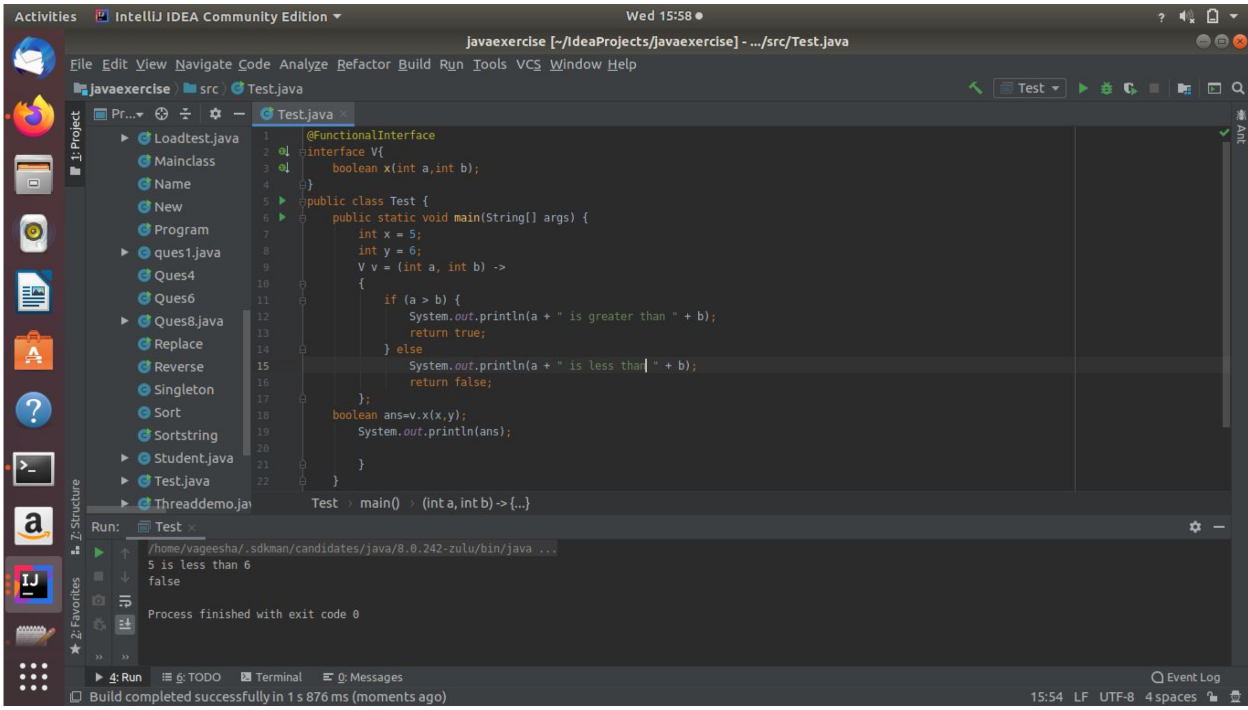
1) **Write the following a functional interface and implement it using lambda:**

○ **(1) First number is greater than second number or not Parameter (int ,int) Return boolean**

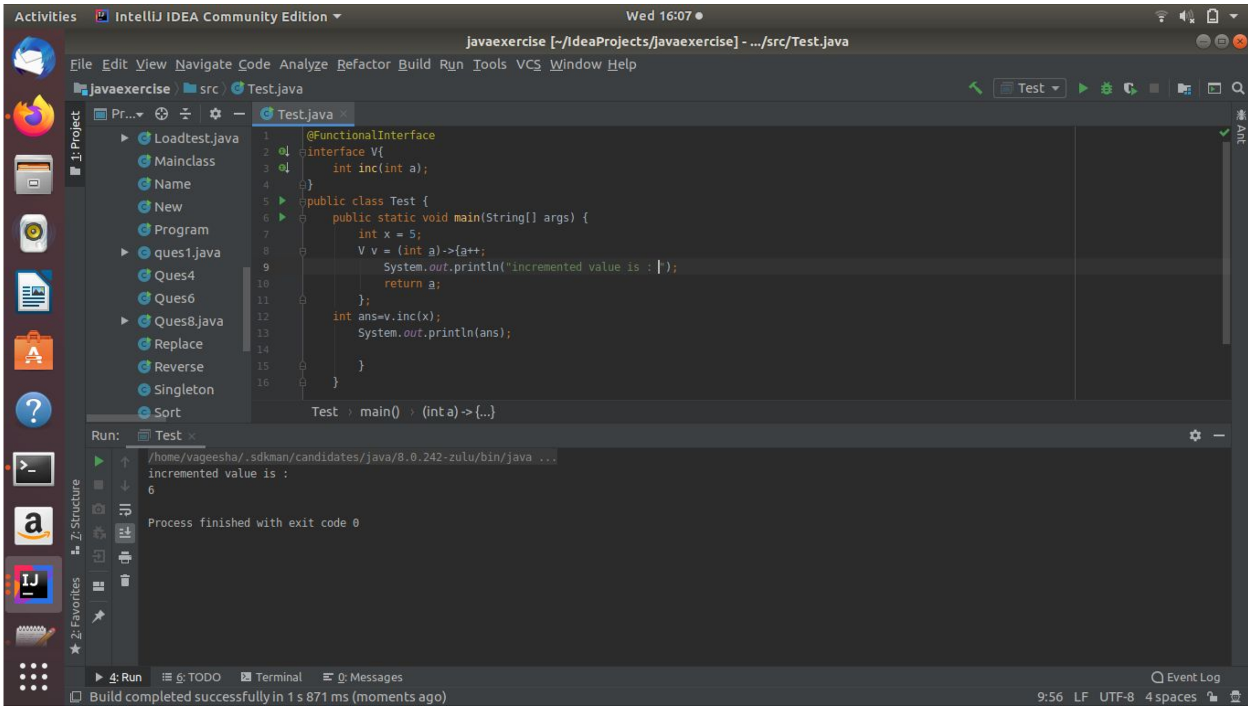


Activities
IntelliJ IDEA Community Edition
Wed 15:58
javaexercise [~/IdeaProjects/javaexercise] - .../src/Test.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise 〉 src 〉 Test.java
Test
Loadtest.java
Mainclass
Name
New
Program
ques1.java
Ques4
Ques6
Ques8.java
Replace
Reverse
Singleton
Sort
Sortstring
Student.java
Test.java
Threaddemo.jav
Test.java
Test 〉 main() 〉 (int a, int b) -> {...}
Run: Test
4: Run
6: TODO
Terminal
0: Messages
Event Log
Build completed successfully in 1 s 876 ms (moments ago)
15:54 LF UTF-8 4 spaces

```java
@FunctionalInterface
interface V{
    boolean x(int a,int b);
}
public class Test {
    public static void main(String[] args) {
        int x = 5;
        int y = 6;
        V v = (int a, int b) ->
        {
            if (a > b) {
                System.out.println(a + " is greater than " + b);
                return true;
            } else
                System.out.println(a + " is less than " + b);
                return false;
        };
    boolean ans=v.x(x,y);
        System.out.println(ans);

        }
    }
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
5 is less than 6
false

Process finished with exit code 0
```

○ **(2) Increment the number by 1 and return incremented value Parameter (int) Return int**

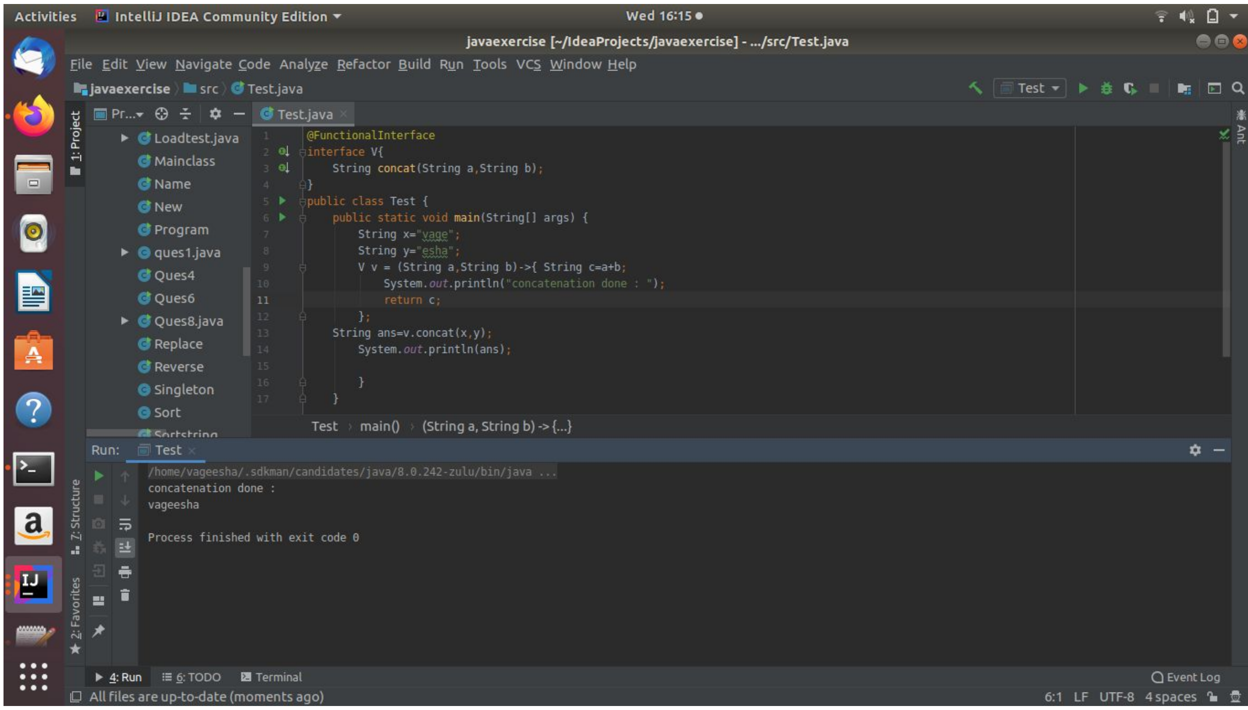

Activities
IntelliJ IDEA Community Edition
Wed 16:07
javaexercise [~/IdeaProjects/javaexercise] - .../src/Test.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Test.java
Test
Pr...
Loadtest.java
Mainclass
Name
New
Program
ques1.java
Ques4
Ques6
Ques8.java
Replace
Reverse
Singleton
Sort
Test.java
Test main() (int a) -> {...}
Run: Test
4: Run
6: TODO
Terminal
0: Messages
Event Log
9:56 LF UTF-8 4 spaces

```java
@FunctionalInterface
interface V{
    int inc(int a);
}
public class Test {
    public static void main(String[] args) {
        int x = 5;
        V v = (int a)->{a++;
            System.out.println("incremented value is : ");
            return a;
        };
    int ans=v.inc(x);
        System.out.println(ans);

        }
    }
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
incremented value is :
6

Process finished with exit code 0
```

Build completed successfully in 1 s 871 ms (moments ago)

- (3) Concatenation of 2 string Parameter (String , String) Return (String)

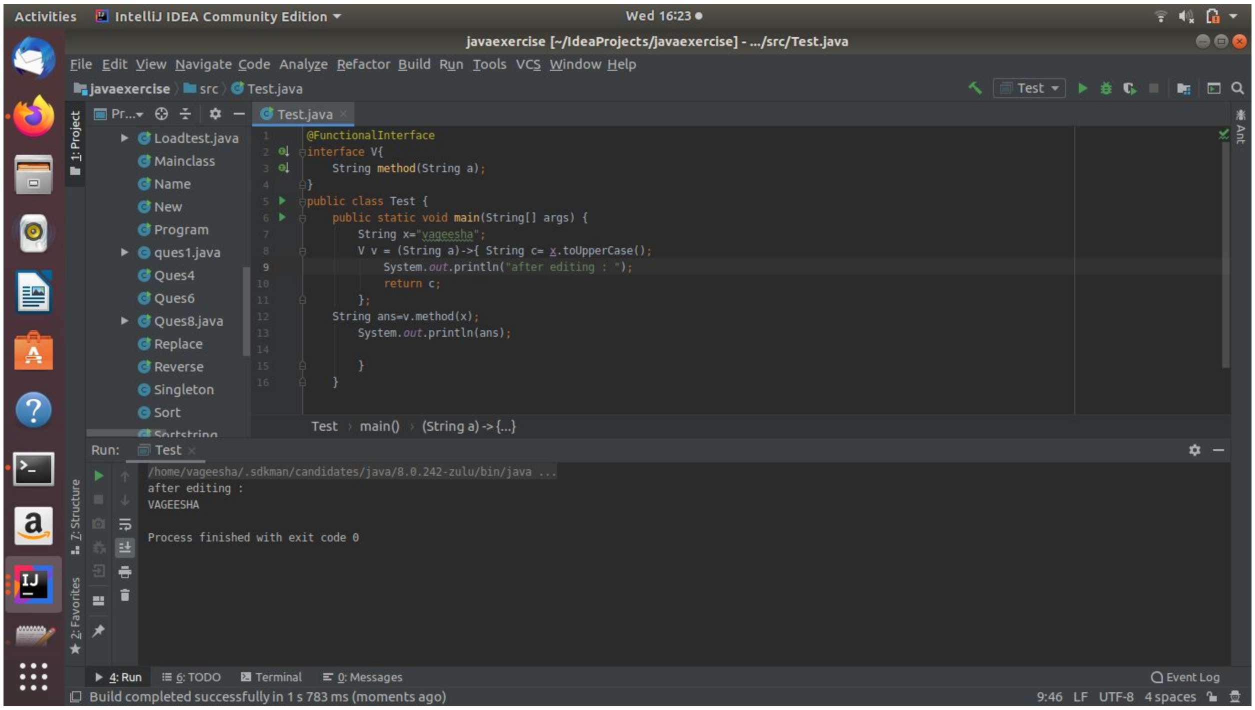

Activities
IntelliJ IDEA Community Edition
Wed 16:15
javaexercise [~/IdeaProjects/javaexercise] - .../src/Test.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Test.java
Test
Pr...
Loadtest.java
Mainclass
Name
New
Program
ques1.java
Ques4
Ques6
Ques8.java
Replace
Reverse
Singleton
Sort
Sortstring
Test.java
Test main() (String a, String b) -> {...}
Run: Test
4: Run
6: TODO
Terminal
Event Log
6:1 LF UTF-8 4 spaces

```java
@FunctionalInterface
interface V{
    String concat(String a,String b);
}
public class Test {
    public static void main(String[] args) {
        String x="vage";
        String y="esha";
        V v = (String a,String b)->{ String c=a+b;
            System.out.println("concatenation done : ");
            return c;
        };
    String ans=v.concat(x,y);
        System.out.println(ans);

        }
    }
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
concatenation done :
vageesha

Process finished with exit code 0
```

All files are up-to-date (moments ago)

- (4) Convert a string to uppercase and return . Parameter (String) Return (String)

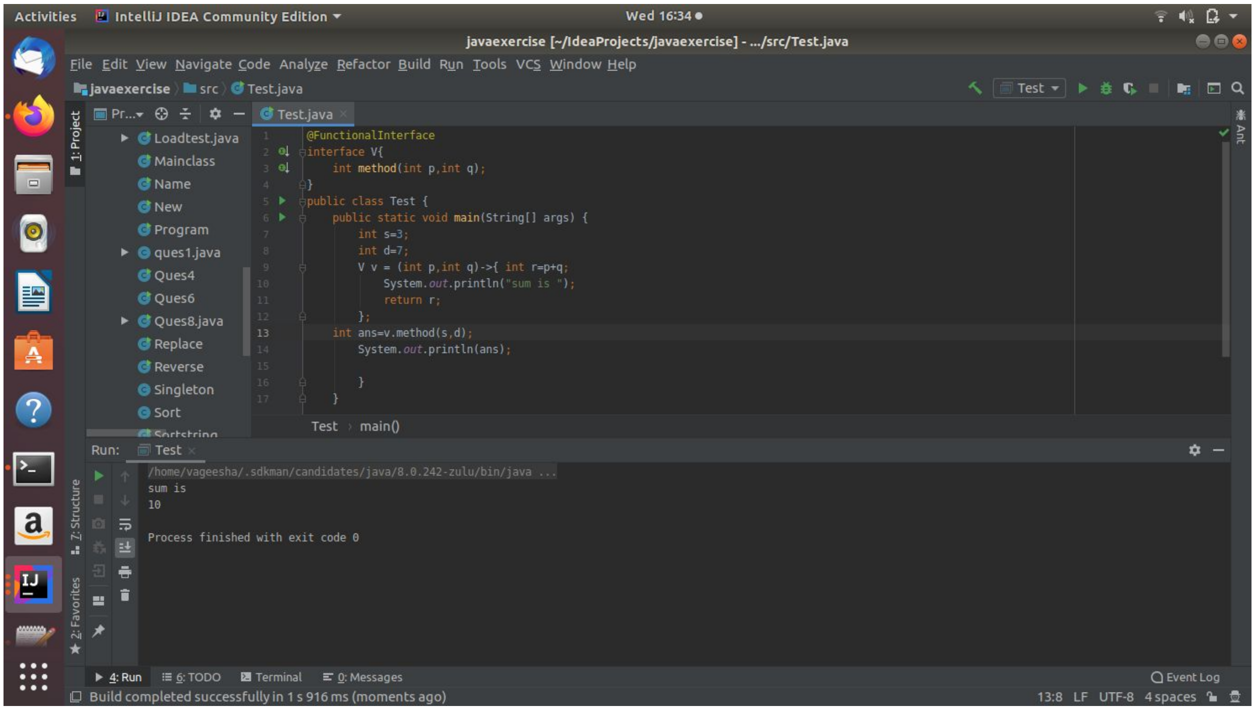

Activities
IntelliJ IDEA Community Edition
Wed 16:23
javaexercise [~/IdeaProjects/javaexercise] - .../src/Test.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Test.java
Test
Test.java
Loadtest.java
Mainclass
Name
New
Program
ques1.java
Ques4
Ques6
Ques8.java
Replace
Reverse
Singleton
Sort
Sortstring
Test main() (String a) -> {...}
Run: Test
4: Run 6: TODO Terminal 0: Messages
Event Log
9:46 LF UTF-8 4 spaces

```java
@FunctionalInterface
interface V{
    String method(String a);
}
public class Test {
    public static void main(String[] args) {
        String x="vageesha";
        V v = (String a)->{ String c= x.toUpperCase();
            System.out.println("after editing : ");
            return c;
        };
    String ans=v.method(x);
        System.out.println(ans);

        }
    }
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
after editing :
VAGEESHA

Process finished with exit code 0
```

Build completed successfully in 1 s 783 ms (moments ago)

Create a functional interface whose method takes 2 integers and return one integer.

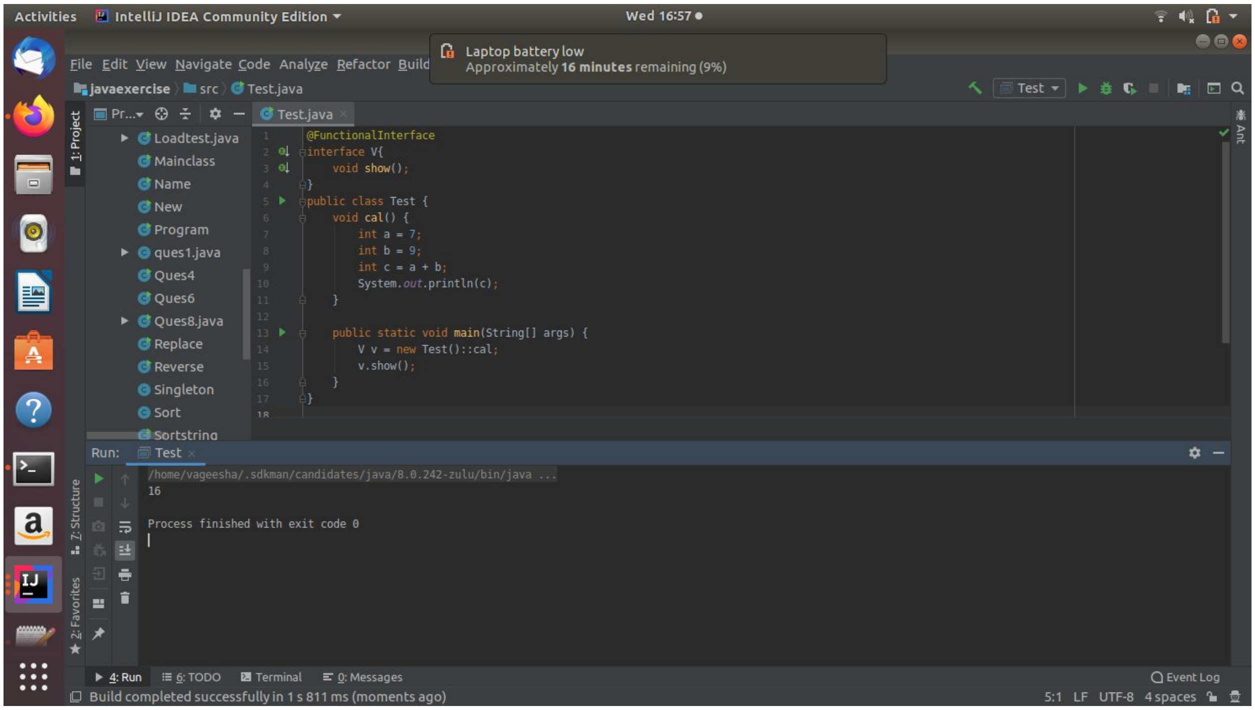

Activities
IntelliJ IDEA Community Edition
Wed 16:34
javaexercise [~/IdeaProjects/javaexercise] - .../src/Test.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Test.java
Test
Test.java
Loadtest.java
Mainclass
Name
New
Program
ques1.java
Ques4
Ques6
Ques8.java
Replace
Reverse
Singleton
Sort
Sortstring
Test main()
Run: Test
4: Run 6: TODO Terminal 0: Messages
Event Log
13:8 LF UTF-8 4 spaces

```java
@FunctionalInterface
interface V{
    int method(int p,int q);
}
public class Test {
    public static void main(String[] args) {
        int s=3;
        int d=7;
        V v = (int p,int q)->{ int r=p+q;
            System.out.println("sum is ");
            return r;
        };
    int ans=v.method(s,d);
        System.out.println(ans);

        }
    }
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
sum is
10

Process finished with exit code 0
```

Build completed successfully in 1 s 916 ms (moments ago)

Using (instance) Method reference create and apply add and subtract method and using (Static) Method reference create and apply multiplication method for the functional interface created.

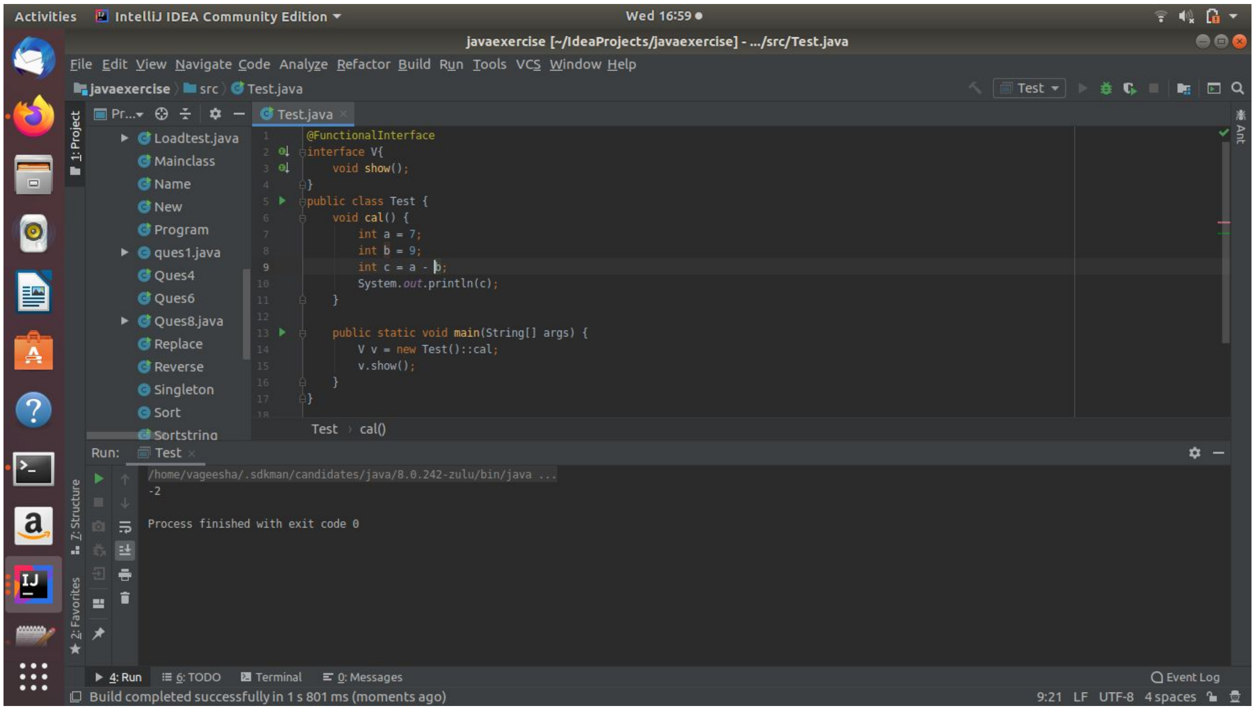


Laptop battery low
Approximately **16 minutes** remaining (9%)

```
@FunctionalInterface
interface V{
    void show();
}
public class Test {
    void cal() {
        int a = 7;
        int b = 9;
        int c = a + b;
        System.out.println(c);
    }

    public static void main(String[] args) {
        V v = new Test()::cal;
        v.show();
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
16

Process finished with exit code 0
```

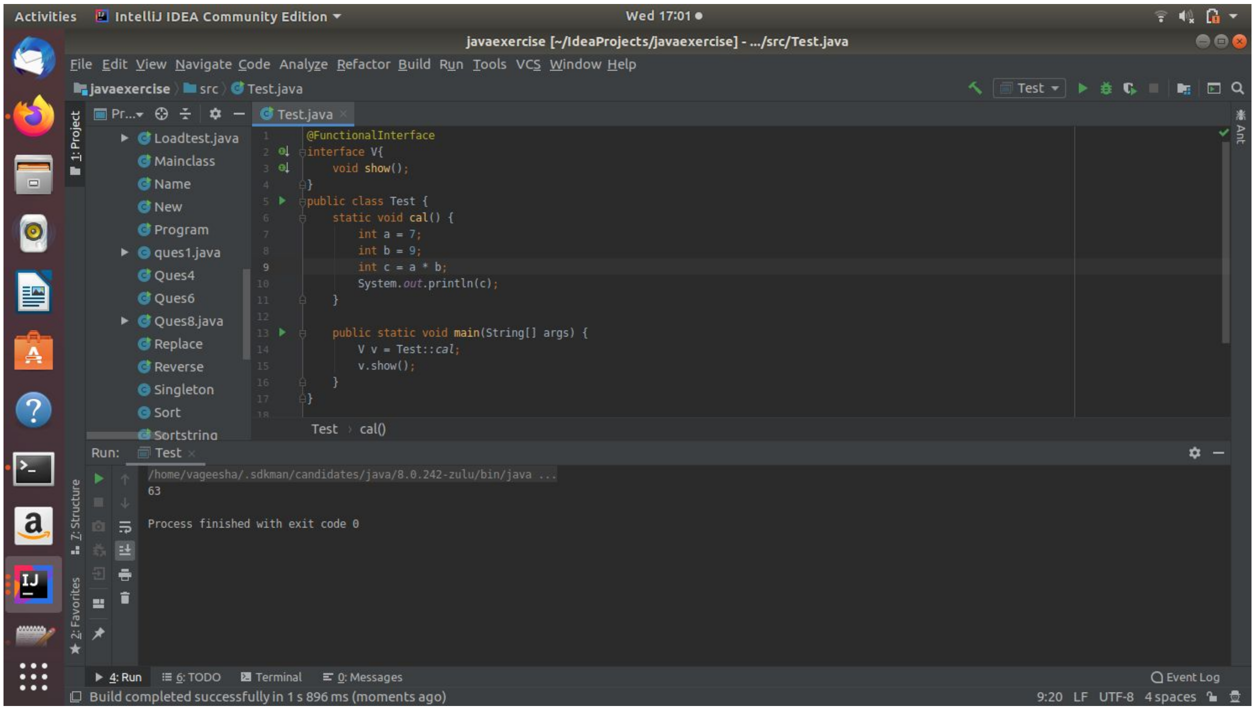
Build completed successfully in 1 s 811 ms (moments ago)



```
@FunctionalInterface
interface V{
    void show();
}
public class Test {
    void cal() {
        int a = 7;
        int b = 9;
        int c = a - b;
        System.out.println(c);
    }

    public static void main(String[] args) {
        V v = new Test()::cal;
        v.show();
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
-2

Process finished with exit code 0
```

Build completed successfully in 1 s 801 ms (moments ago)

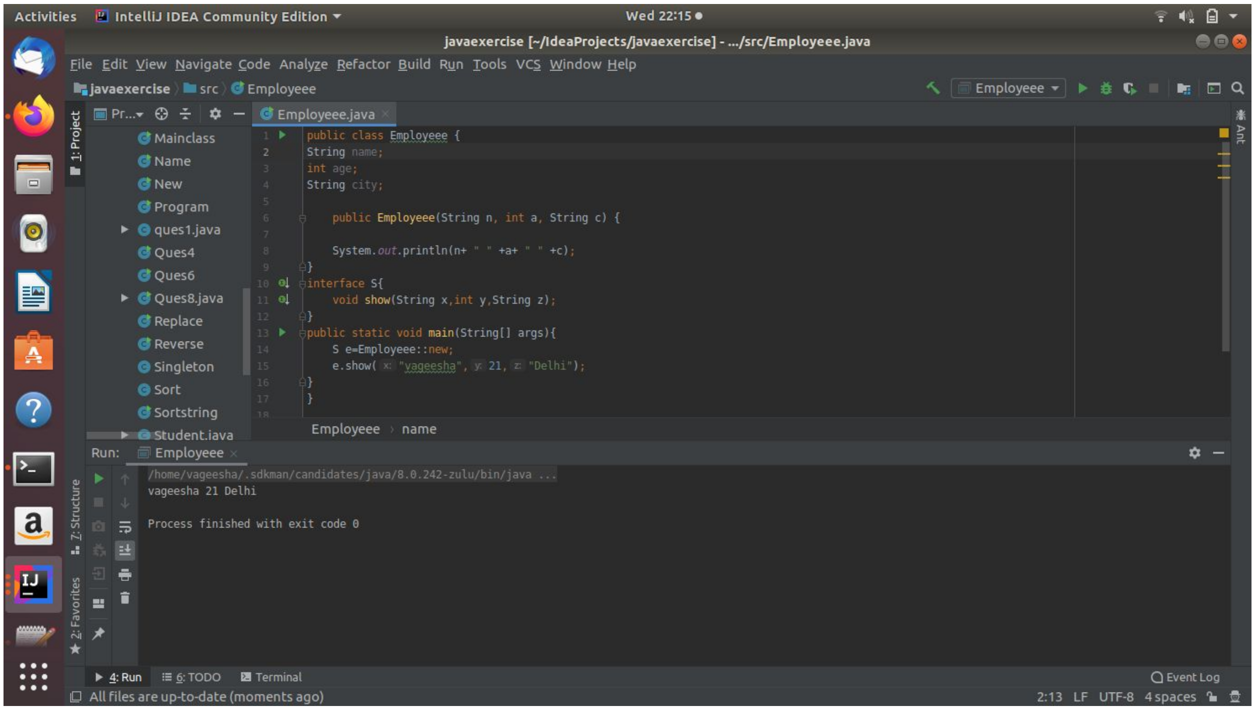


```java
@FunctionalInterface
interface V{
    void show();
}
public class Test {
    static void cal() {
        int a = 7;
        int b = 9;
        int c = a * b;
        System.out.println(c);
    }

    public static void main(String[] args) {
        V v = Test::cal;
        v.show();
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
63

Process finished with exit code 0
```

Build completed successfully in 1 s 896 ms (moments ago)

Create an Employee Class with instance variables (String) name, (Integer)age, (String)city and get the instance of the Class using constructor reference.



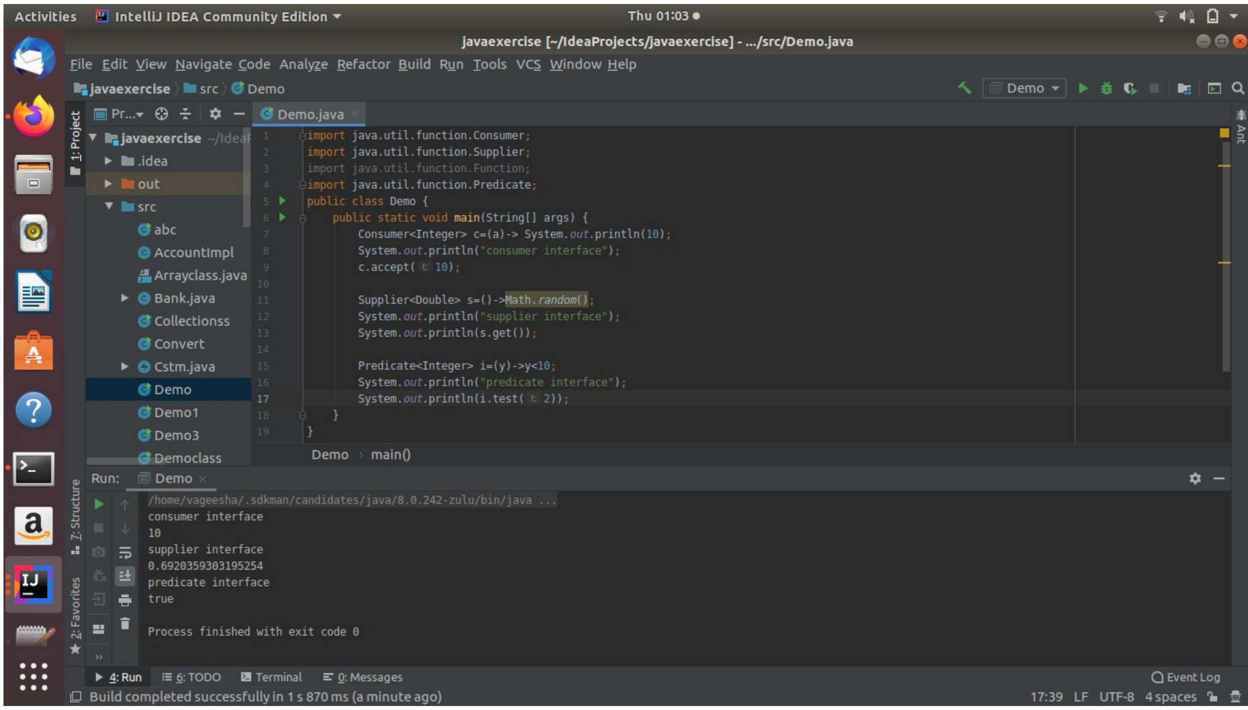
```java
public class Employeee {
String name;
int age;
String city;

    public Employeee(String n, int a, String c) {

    System.out.println(n+ " " +a+ " " +c);
}
interface S{
    void show(String x,int y,String z);
}
public static void main(String[] args){
    S e=Employeee::new;
    e.show( x: "vageesha", y: 21, z: "Delhi");
}
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
vageesha 21 Delhi

Process finished with exit code 0
```

All files are up-to-date (moments ago)

Implement following functional interfaces from java.util.function using lambdas:

- **(1) Consumer**
- **(2) Supplier**
- **(3) Predicate**
- **(4) Function**

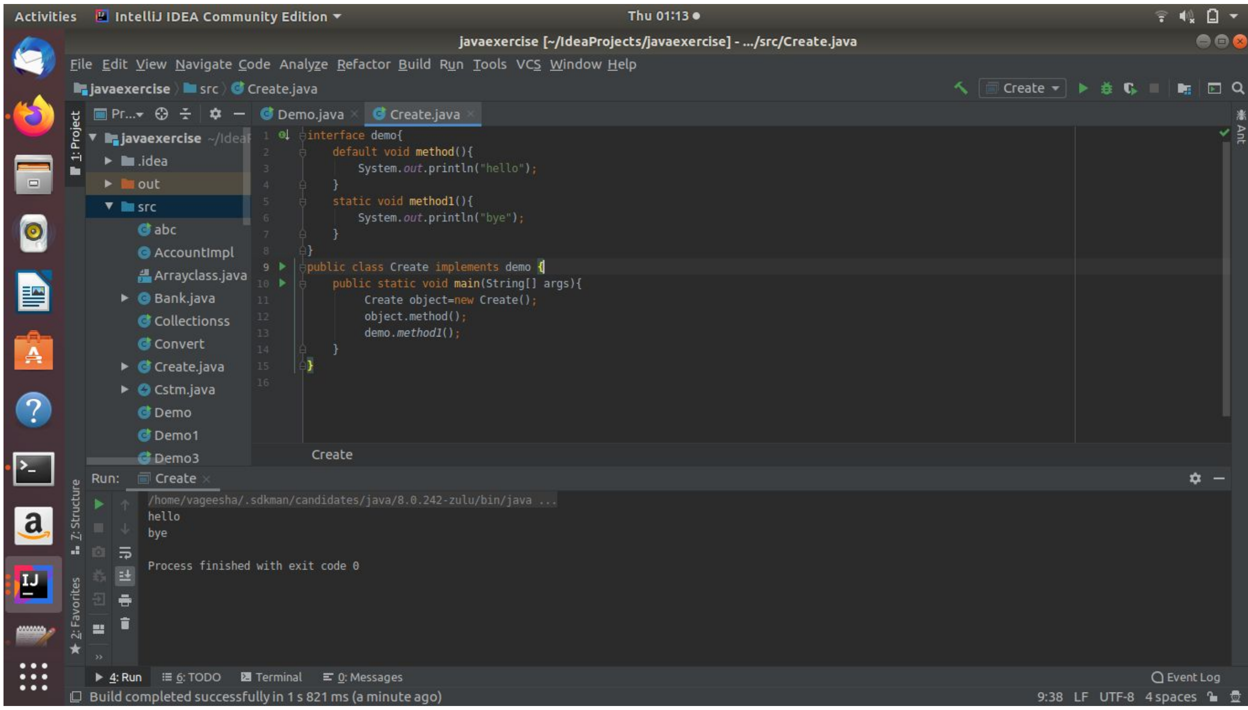


```java
import java.util.function.Consumer;
import java.util.function.Supplier;
import java.util.function.Function;
import java.util.function.Predicate;
public class Demo {
    public static void main(String[] args) {
        Consumer<Integer> c=(a)-> System.out.println(10);
        System.out.println("consumer interface");
        c.accept( 10);

        Supplier<Double> s=()->Math.random();
        System.out.println("supplier interface");
        System.out.println(s.get());

        Predicate<Integer> i=(y)->y<10;
        System.out.println("predicate interface");
        System.out.println(i.test( 2));
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
consumer interface
10
supplier interface
0.6920359303195254
predicate interface
true

Process finished with exit code 0
```

Build completed successfully in 1 s 870 ms (a minute ago)

Create and access default and static method of an interface.



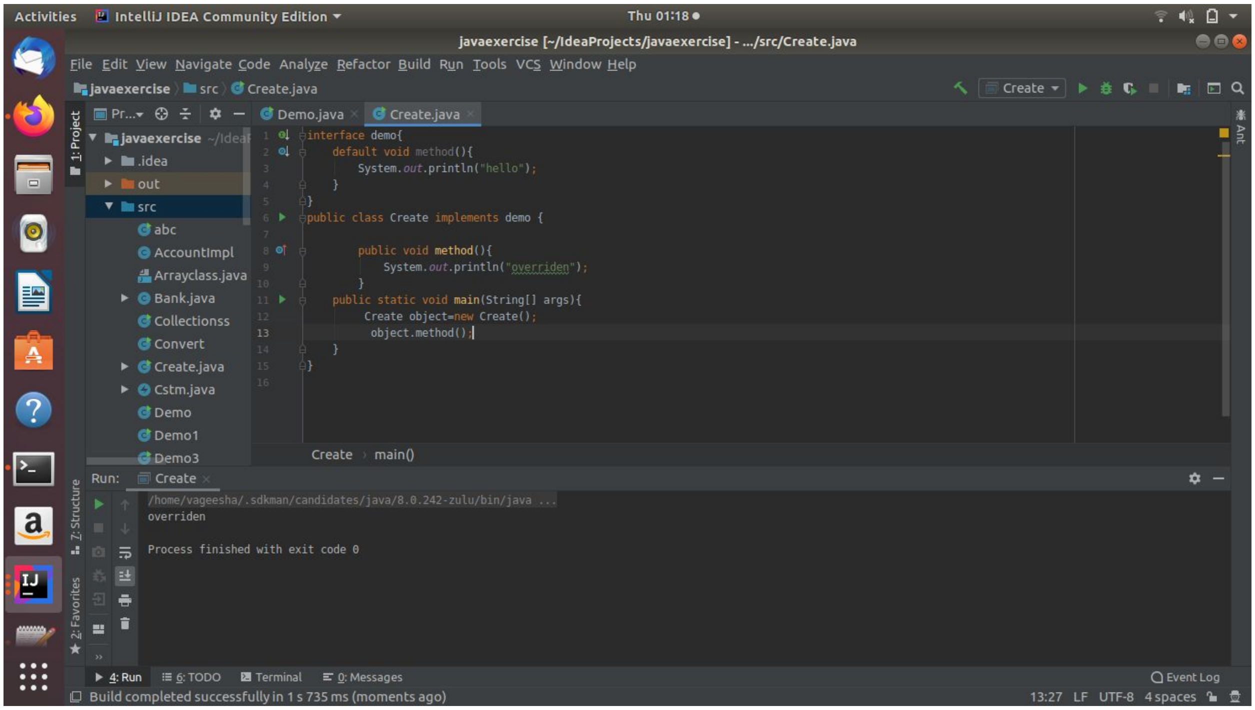
javaexercise [~/IdeaProjects/javaexercise] - .../src/Create.java

```java
interface demo{
    default void method(){
        System.out.println("hello");
    }
    static void method1(){
        System.out.println("bye");
    }
}
public class Create implements demo {
    public static void main(String[] args){
         Create object=new Create();
         object.method();
         demo.method1();
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
hello
bye

Process finished with exit code 0
```

Build completed successfully in 1 s 821 ms (a minute ago)

Override the default method of the interface.



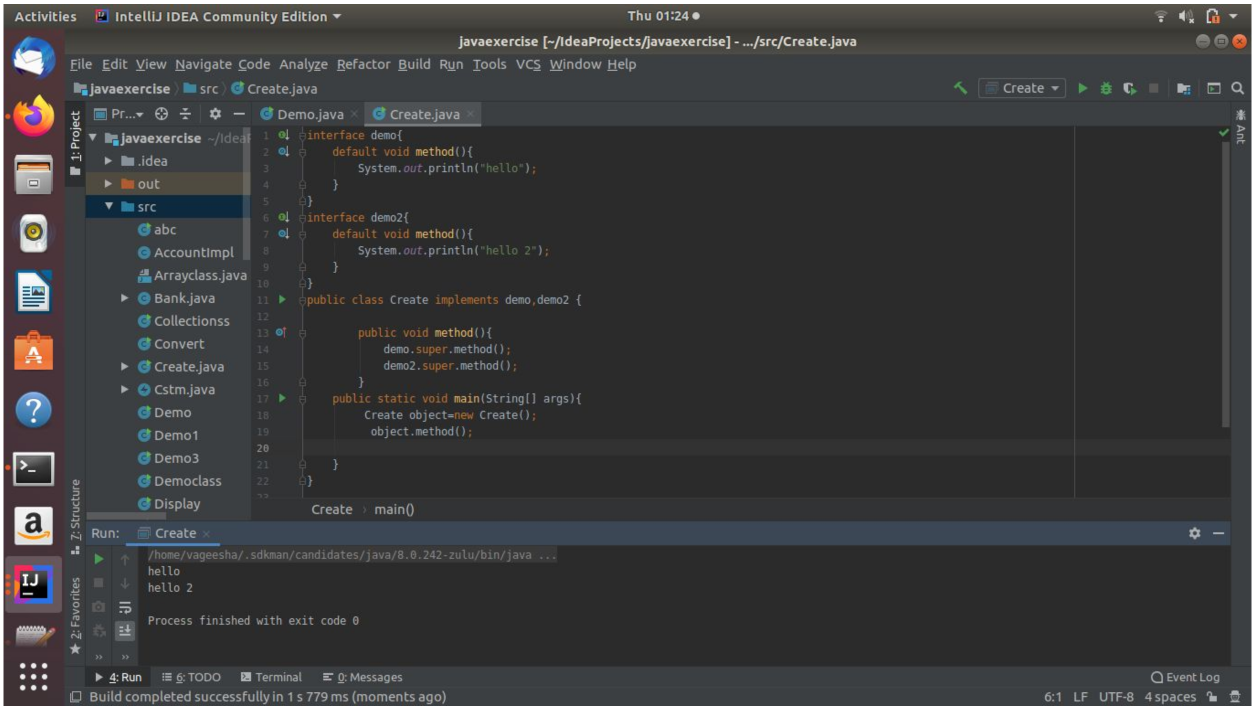
javaexercise [~/IdeaProjects/javaexercise] - .../src/Create.java

```java
interface demo{
    default void method(){
        System.out.println("hello");
    }
}
public class Create implements demo {

        public void method(){
            System.out.println("overriden");
        }
    public static void main(String[] args){
         Create object=new Create();
          object.method();
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
overriden

Process finished with exit code 0
```

Build completed successfully in 1 s 735 ms (moments ago)

Implement multiple inheritance with default method inside interface.

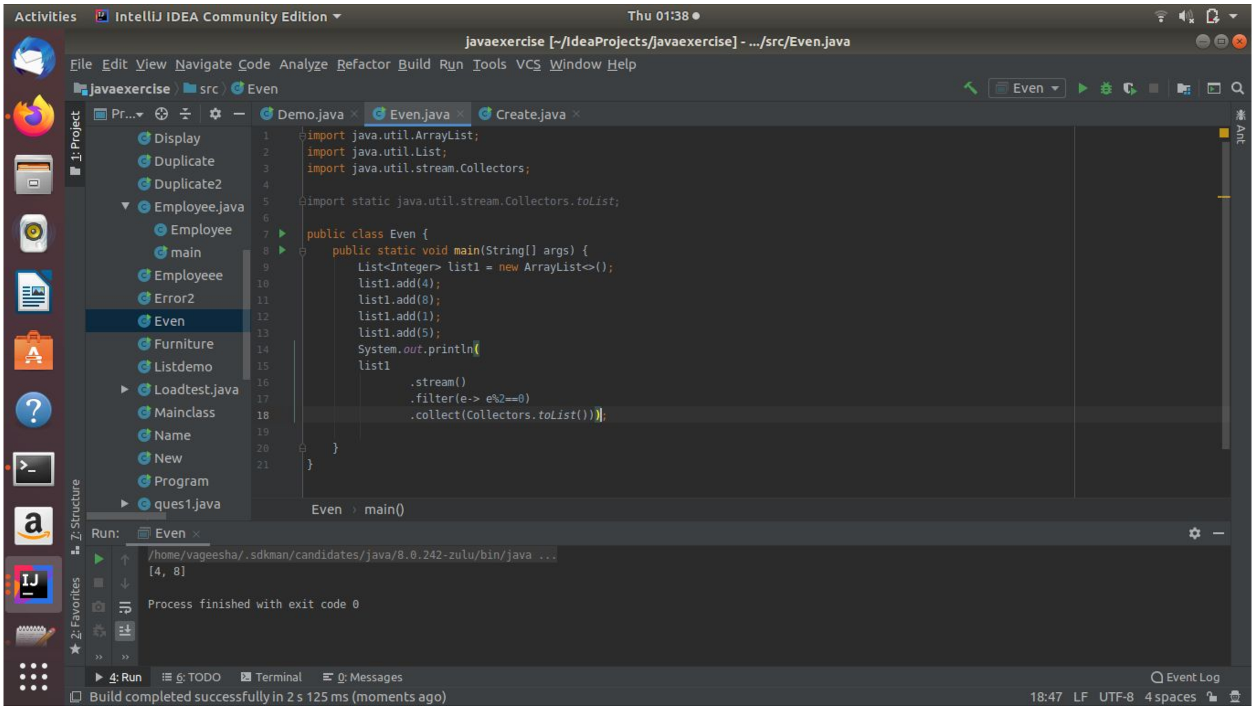


```java
interface demo{
    default void method(){
        System.out.println("hello");
    }
}
interface demo2{
    default void method(){
        System.out.println("hello 2");
    }
}
public class Create implements demo,demo2 {

        public void method(){
            demo.super.method();
            demo2.super.method();
        }
    public static void main(String[] args){
         Create object=new Create();
          object.method();

    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
hello
hello 2

Process finished with exit code 0
```

Build completed successfully in 1 s 779 ms (moments ago)

Collect all the even numbers from an integer list.



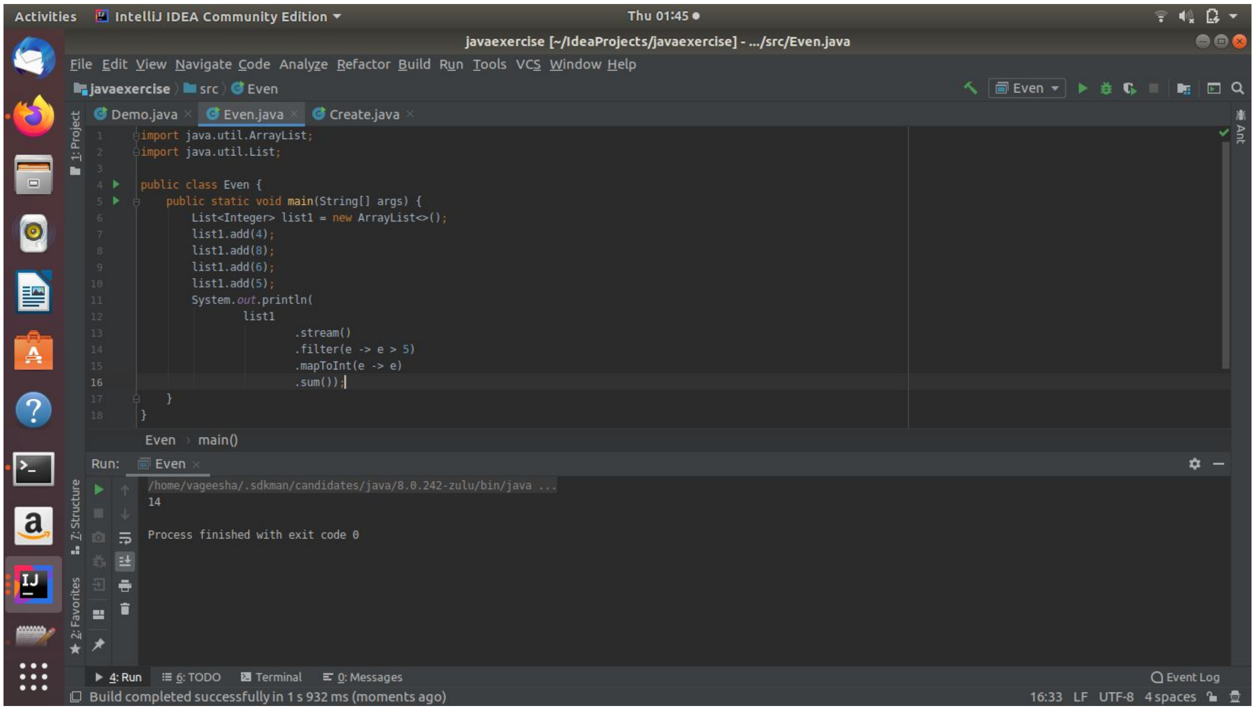
```java
import java.util.ArrayList;
import java.util.List;
import java.util.stream.Collectors;

import static java.util.stream.Collectors.toList;

public class Even {
    public static void main(String[] args) {
        List<Integer> list1 = new ArrayList<>();
        list1.add(4);
        list1.add(8);
        list1.add(1);
        list1.add(5);
        System.out.println(
        list1
                .stream()
                .filter(e-> e%2==0)
                .collect(Collectors.toList()));

    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
[4, 8]

Process finished with exit code 0
```

Build completed successfully in 2 s 125 ms (moments ago)

18:47 LF UTF-8 4 spaces

Sum all the numbers greater than 5 in the integer list.


Activities
IntelliJ IDEA Community Edition
Thu 01:45
javaexercise [~/IdeaProjects/javaexercise] - .../src/Even.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise
src
Even
Demo.java
Even.java
Create.java
Even
main()
Run:
Even
4: Run
6: TODO
Terminal
0: Messages
Event Log

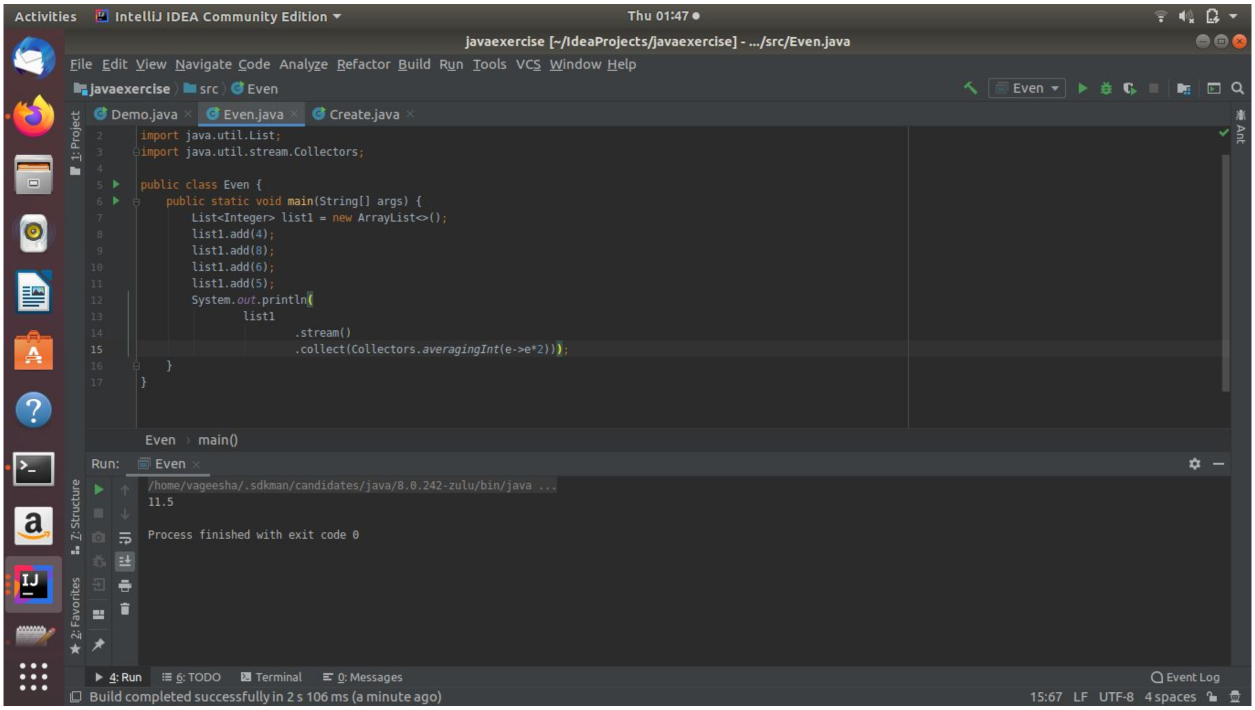
```java
import java.util.ArrayList;
import java.util.List;

public class Even {
    public static void main(String[] args) {
        List<Integer> list1 = new ArrayList<>();
        list1.add(4);
        list1.add(8);
        list1.add(6);
        list1.add(5);
        System.out.println(
                list1
                        .stream()
                        .filter(e -> e > 5)
                        .mapToInt(e -> e)
                        .sum());
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
14

Process finished with exit code 0
```

Build completed successfully in 1 s 932 ms (moments ago)

16:33 LF UTF-8 4 spaces

Find average of the number inside integer list after doubling it.

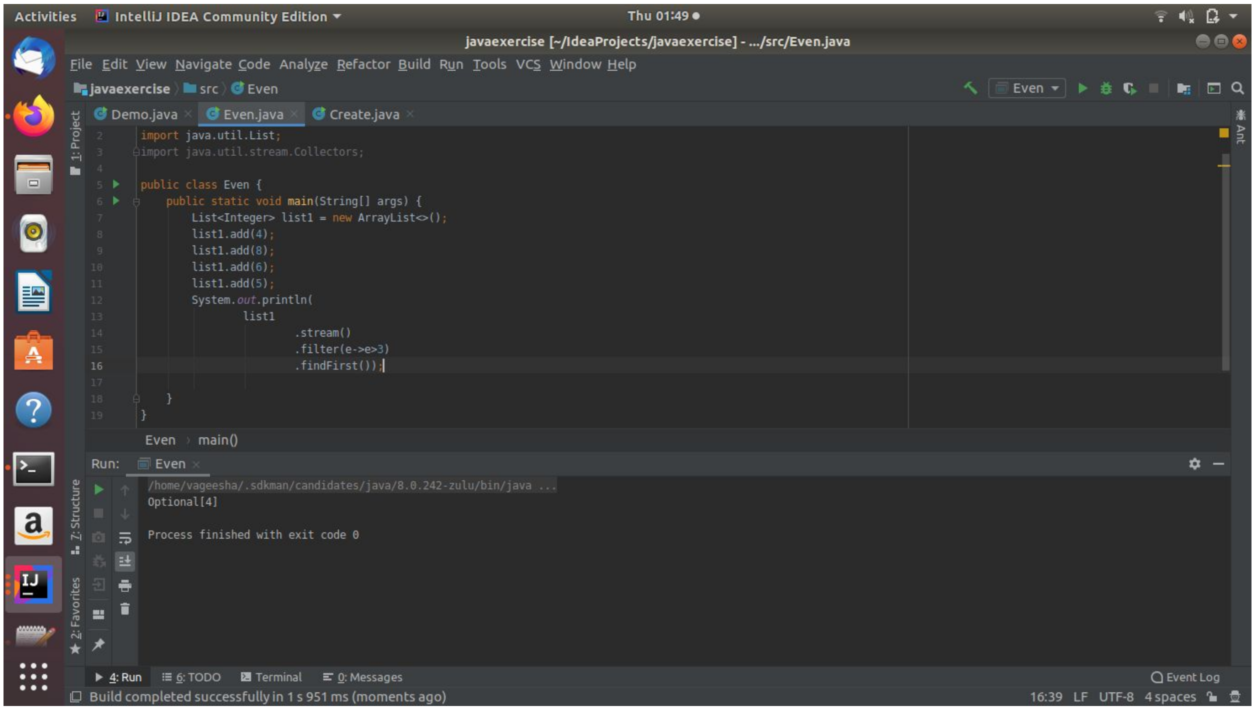

Activities
IntelliJ IDEA Community Edition
Thu 01:47
javaexercise [~/IdeaProjects/javaexercise] - .../src/Even.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Even
Demo.java
Even.java
Create.java
Even main()
Run: Even
4: Run
6: TODO
Terminal
0: Messages
Event Log
15:67 LF UTF-8 4 spaces

```java
import java.util.List;
import java.util.stream.Collectors;

public class Even {
    public static void main(String[] args) {
        List<Integer> list1 = new ArrayList<>();
        list1.add(4);
        list1.add(8);
        list1.add(6);
        list1.add(5);
        System.out.println(
                list1
                        .stream()
                        .collect(Collectors.averagingInt(e->e*2)));
    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
11.5

Process finished with exit code 0
```

Build completed successfully in 2 s 106 ms (a minute ago)

Find the first even number in the integer list which is greater than 3.


Activities
IntelliJ IDEA Community Edition
Thu 01:49
javaexercise [~/IdeaProjects/javaexercise] - .../src/Even.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
javaexercise src Even
Demo.java
Even.java
Create.java
Even main()
Run: Even
4: Run
6: TODO
Terminal
0: Messages
Event Log
16:39 LF UTF-8 4 spaces

```java
import java.util.List;
import java.util.stream.Collectors;

public class Even {
    public static void main(String[] args) {
        List<Integer> list1 = new ArrayList<>();
        list1.add(4);
        list1.add(8);
        list1.add(6);
        list1.add(5);
        System.out.println(
                list1
                        .stream()
                        .filter(e->e>3)
                        .findFirst());

    }
}
```

```
/home/vageesha/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Optional[4]

Process finished with exit code 0
```

Build completed successfully in 1 s 951 ms (moments ago)