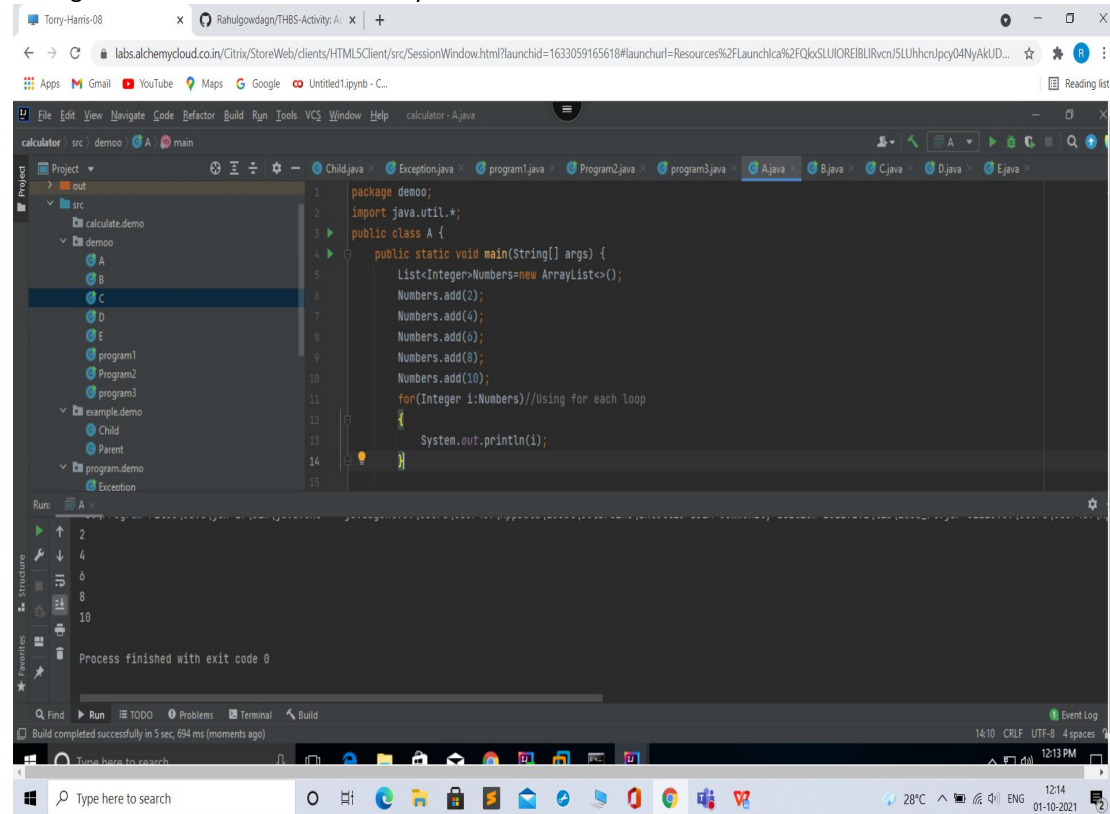


1. Program to Traverse or Iterate arraylist

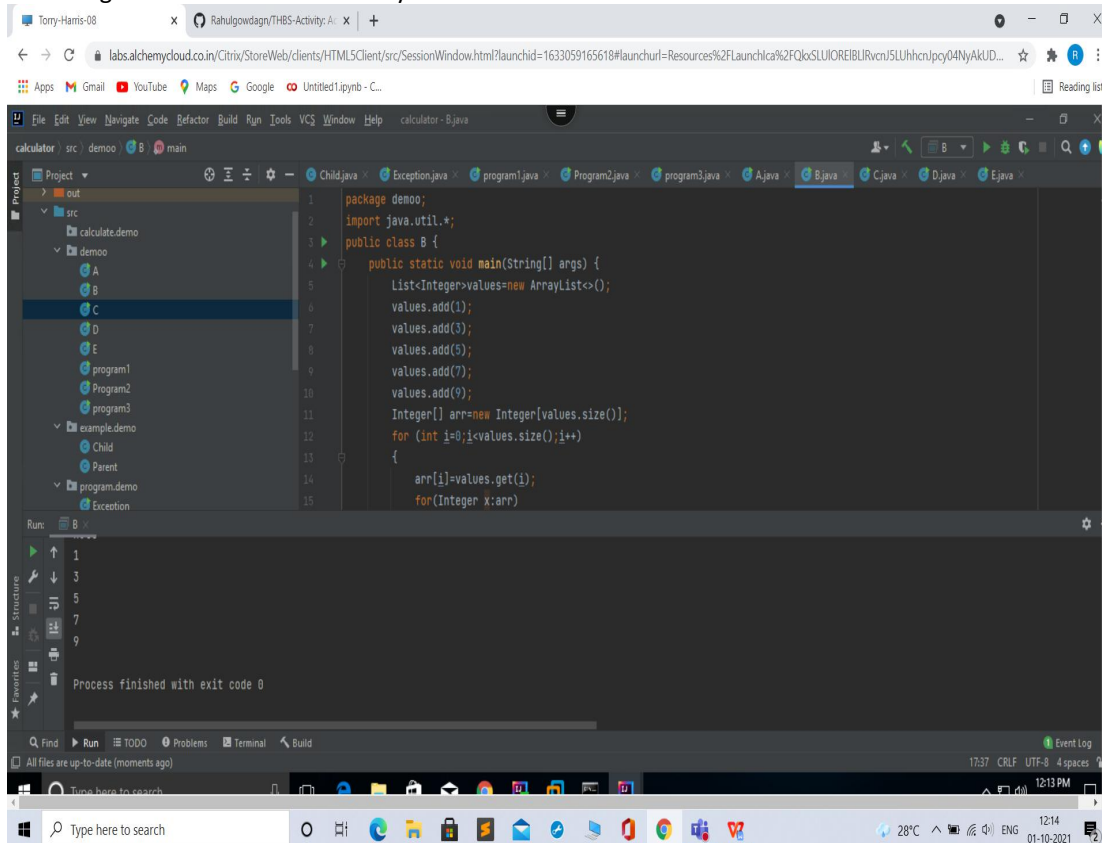


The screenshot shows an IDE with a project named 'calculator'. The 'src' folder contains a 'demo' package with classes A, B, C, D, E, program1, program2, program3, example.demo, Child, Parent, and program.demo. The 'demo' package is selected, and class 'A' is open. The code in class 'A' is as follows:

```
1 package demo;  
2 import java.util.*;  
3 public class A {  
4     public static void main(String[] args) {  
5         List<Integer>Numbers=new ArrayList<>();  
6         Numbers.add(2);  
7         Numbers.add(4);  
8         Numbers.add(6);  
9         Numbers.add(8);  
10        Numbers.add(10);  
11        for(Integer i:Numbers)//Using for each loop  
12        {  
13            System.out.println(i);  
14        }  
15    }  
16 }
```

The 'Runs' tab shows the output: 2, 4, 6, 8, 10. The 'Process finished with exit code 0'.

2. Program to convert List to array

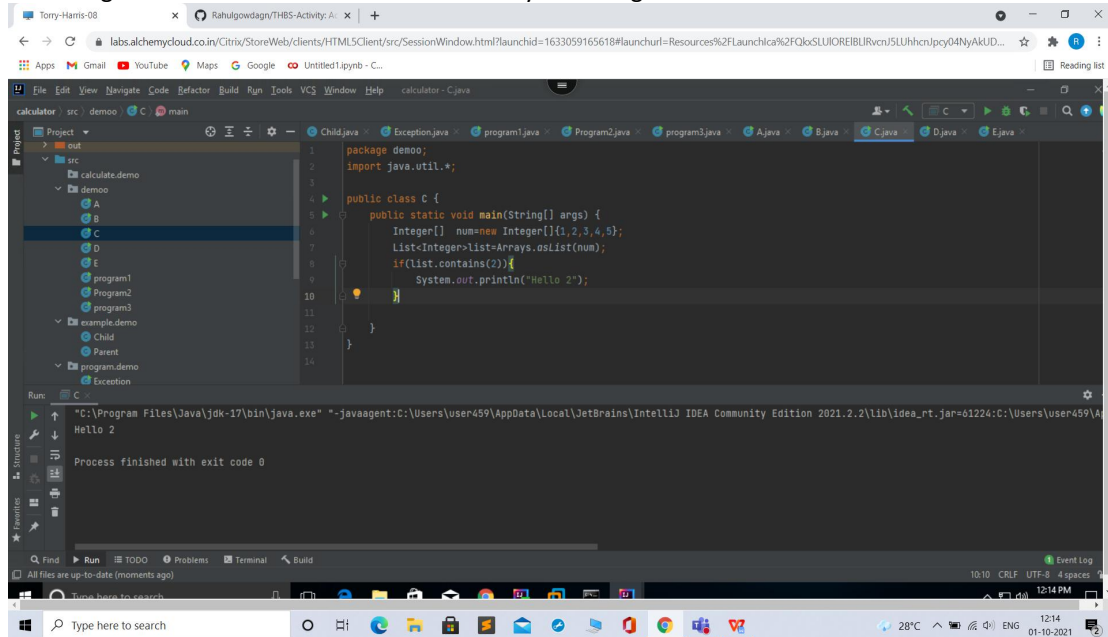


The screenshot shows the same IDE with the 'demo' package selected, and class 'B' is open. The code in class 'B' is as follows:

```
1 package demo;  
2 import java.util.*;  
3 public class B {  
4     public static void main(String[] args) {  
5         List<Integer>values=new ArrayList<>();  
6         values.add(1);  
7         values.add(3);  
8         values.add(5);  
9         values.add(7);  
10        values.add(9);  
11        Integer[] arr=new Integer(values.size());  
12        for (int i=0;i<values.size();i++)  
13        {  
14            arr[i]=values.get(i);  
15        }  
16    }  
17 }
```

The 'Runs' tab shows the output: 1, 3, 5, 7, 9. The 'Process finished with exit code 0'.

3. Program to check if elements exists in arraylist



```
package demo;
import java.util.*;

public class C {
    public static void main(String[] args) {
        Integer[] num=new Integer[]{1,2,3,4,5};
        List<Integer>list=Arrays.asList(num);
        if(list.contains(2)){
            System.out.println("Hello 2");
        }
    }
}
```

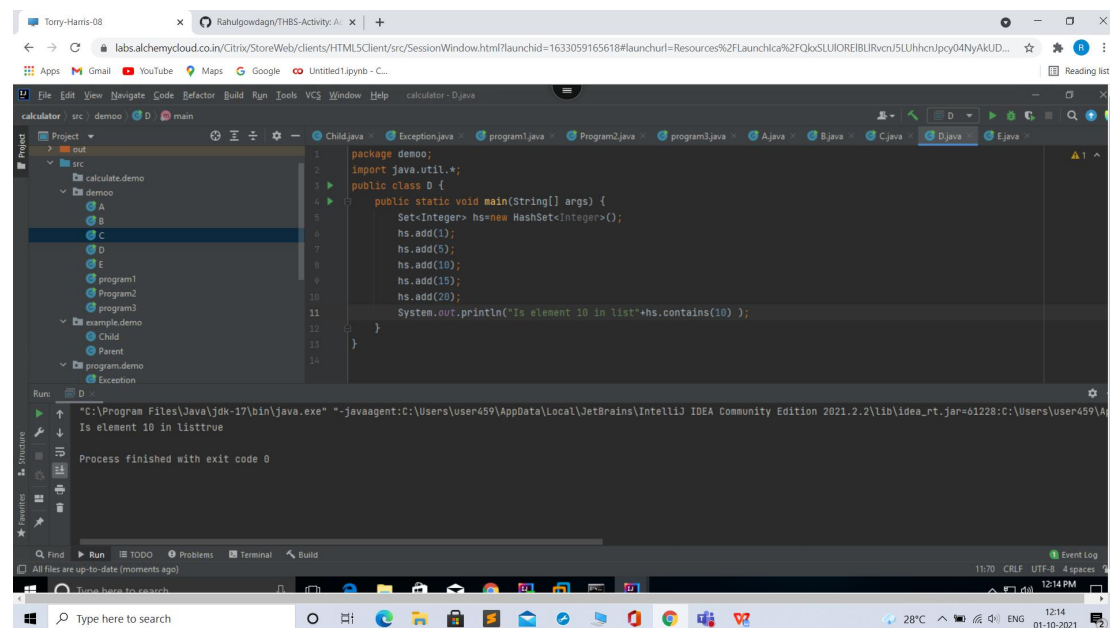
Run: C

"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\lib\idea_rt.jar=61224:C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\bin" -Didea.config.path=C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\config -Didea.system.path=C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\bin -Didea.version=2021.2.2

Hello 2

Process finished with exit code 0

4. Program to check if Element exists in hashset



```
package demo;
import java.util.*;

public class D {
    public static void main(String[] args) {
        Set<Integer> hs=new HashSet<Integer>();
        hs.add(1);
        hs.add(5);
        hs.add(10);
        hs.add(15);
        hs.add(20);
        System.out.println("Is element 10 in list:"+hs.contains(10) );
    }
}
```

Run: D

"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\lib\idea_rt.jar=61228:C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\bin" -Didea.config.path=C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\config -Didea.system.path=C:\Users\user459\AppData\Local\JetBrains\IntelliJ IDEA Community Edition 2021.2.2\bin -Didea.version=2021.2.2

Is element 10 in list:true

Process finished with exit code 0

5. Program to find length of arraylist

