

```
1 // Harini. R 192324108
2 //JP section-3_3 question-2
3 package test;
4
5 import java.util.ArrayList;
6
7 class GenericStackException extends RuntimeException {
8     public GenericStackException(String message) {
9         super(message);
10    }
11 }
12 class GenericStack<T> {
13     private ArrayList<T> items;
14     private int top;
15
16     public GenericStack() {
17         items = new ArrayList<>();
18         top = 0;
19     }
20     private boolean isEmpty() {
21         return top == 0;
22     }
23     public void push(T item) {
24         items.add(item);
25         top++;
26     }
27     public T pop() {
28         if (isEmpty()) {
29             throw new GenericStackException("Underflow Error");
30         }
31         return items.remove(--top);
32     }
33 }
34 public class StackDriver {
35     public static void main(String[] args) {
36         GenericStack<Integer> stack = new GenericStack<>();
37         stack.push(1);
38         stack.push(2);
```

```
39     stack.push(3);
40     stack.push(4);
41     try {
42         System.out.println("Popped: " + stack.pop());
43         System.out.println("Popped: " + stack.pop());
44         System.out.println("Popped: " + stack.pop());
45         System.out.println("Popped: " + stack.pop());
46         System.out.println("Popped: " + stack.pop());
47     } catch (GenericStackException e) {
48         System.out.println(e.getMessage());
49     }
50 }
51 }
```

Problems Javadoc Declaration Console × Coverage Error Log

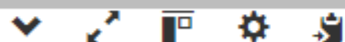
<terminated> StackDriver [Java Application] C:\Users\harin\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64\_22.0

Popped: 4  
Popped: 3  
Popped: 2  
Popped: 1  
Underflow Error

```

1 // Harini. R 192324108
2 //JP section-3_3 question-5
3 import java.util.HashMap;
4 import java.util.Map;
5
6 public class CourseCollection {
7     public static void main(String[] args) {
8         Map<String, String> courses = new HashMap<>();
9
10        courses.put("CIT", "Computing and Information Technology");
11        courses.put("CHI", "Childcare and Early Education");
12        courses.put("MVS", "Motor Vehicle Systems");
13        courses.put("BTH", "Beauty Therapy");
14        courses.put("GDE", "Graphic Design");
15        System.out.println("List of Courses:");
16        for (Map.Entry<String, String> entry : courses.entrySet()) {
17            System.out.println(entry.getKey() + ": " + entry.getValue());
18        }
19        String courseCode = "CIT";
20        String courseName = courses.get(courseCode);
21        System.out.println("\nCourse name for code " + courseCode + ": " + courseName);
22    }
23 }
24

```


input

```

List of Courses:
CHI: Childcare and Early Education
BTH: Beauty Therapy
GDE: Graphic Design
MVS: Motor Vehicle Systems
CIT: Computing and Information Technology

Course name for code CIT: Computing and Information Technology

```