

```
1 package dj;
2 import java.util.ArrayList;
3
4 class GenericStackException extends RuntimeException {
5     public GenericStackException(String message) {
6         super(message);
7     }
8 }
9 class GenericStack<T> {
10     private ArrayList<T> items;
11     private int top;
12
13     public GenericStack() {
14         items = new ArrayList<>();
15         top = 0;
16     }
17     private boolean isEmpty() {
18         return top == 0;
19     }
20     public void push(T item) {
21         items.add(item);
22         top++;
23     }
24     public T pop() {
25         if (isEmpty()) {
26             throw new GenericStackException("Underflow Error");
27         }
28         return items.remove(--top);
29     }
30 }
```

<terminated> StackDriver [Java Application] C:\Users\MAITHREYEE\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22.0.2.v20240802-1626\jre\bin\javaw.exe (22 Aug 2024, 8:11:27 am – 8:11:28 am) [pid: 10928]

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



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

<terminated> CourseCollection [Java Application] C:\Users\MAITHREYEE\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22.0.2.v20240802-1626\jre\bin\javaw.exe (22 Aug 2024, 8:12:58 am – 8:12:59 am) [pid: 14328]

```
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
```