



## CS321: Lab #3 Exception Handling Part 2

### Objective(s)

- 1- Using throw statement to throw or re-throw an exception.

### Tool(s)/Software

- NetBeans or Eclipse or any platform that supports Java.

### Description

- **throw** statement: indicates that an exception has occurred. It is used to throw exceptions. The operand of a **throw** can be of any class derived from class **Throwable**.
- For example: Throw exceptions from constructors to indicate that the constructor parameters are not valid – this prevents an object from being created in an invalid state.

### Tasks/Assignments(s)

#### Task 1:

Write a program that illustrates re-throwing an exception. Define methods **someMethod1** and **someMethod2**. Method **someMethod2** should initially throw an exception. Method **someMethod1** should call **someMethod2**, catch the exception and re-throw it. Call **someMethod1** from method **main**, and catch the re-thrown exception. Print the stack trace of this exception.

#### Task 2:

This task is a modification on [Courses Records] Program from Lab2:

In Lab2, you have developed a class **CourseRecord** that have the following instance variables:

- ☒ Course Code: int
- ☒ Course Title: String
- ☒ Credit Hours: double
- ☒ Instructor Name: String
- ☒ Class Rooms: int

In order to avoid creating improperly formed object from **CourseRecord**, you are required to modify its parameterized constructor such that if one of the following conditions is violated, the constructor throws an exception with the message "Invalid Course Information":

- ✓ Course code should starts with CS or CIS followed by 3 characters.
- ✓ Class Rooms should be a positive value.



- ✓ Credit Hours should be between 1.0 to 3.0 hours.

Based on that, you will need to do some modifications in the main method in CourseRecordTest class. Whenever you are creating an object of type CourseRecord, you should catch the exception that's thrown from CourseRecord's constructor

### Deliverables(s)

You are required to implement and deliver two Java programs as described in task1 & 2 from the previous section.

The following are samples of the program's outputs for task 2:

```
Menu:
1- Add Course
2- Print all course records
3- Update course record
4- Print a course records
5- Exit
Enter your choice: Choice 1
1
Adding New Course:
-----
Please enter level number:
1
Please enter course information:
Course Code:
CS311
Course Title:
Object Oriented Programming 1
Instructor Name:
Dr. John William
Credit Hours:
3.0
Room Number:
12
```

```
Menu:
1- Add Course
2- Print all course records
3- Update course record
4- Print a course records
5- Exit
Enter your choice: Choice 1
1
Adding New Course:
-----
Please enter level number:
2
Please enter course information:
Course Code:
SS232
Course Title:
Data Structure
Instructor Name:
Dr. Sara
Credit Hours:
2.0
Room Number:
10
Invalid Course Information
```



```
Menu:
1- Add Course
2- Print all course records
3- Update course record
4- Print a course records
5- Exit
Enter your choice: 1
Adding New Course:
-----
Please enter level number:
3
Please enter course information
Course Code:
CS412
Course Title:
Network 1
Instructor Name:
Dr. James
Credit Hours:
10
Room Number:
8
Invalid Course Information
```

```
Menu:
1- Add Course
2- Print all course records
3- Update course record
4- Print a course records
5- Exit
Enter your choice: 2
Printing All Available Courses
-----
Available Courses in Level 1:
Course 1:
    Course Code: CS311
    Title: Object Oriented Programming1
    Instructor: Dr. James William
    Class Room:10
    Credit Hours: 3.0

Available Courses in Level 2:
Course 1:
    Course Code: CIS211
    Title: Network 1
    Instructor: Dr. Sara
    Class Room:12
    Credit Hours: 2.0
```

```
Menu:
1- Add Course
2- Print all course records
3- Update course record
4- Print a course records
5- Exit
Enter your choice: 3
Updating Course Record
-----
Please enter level number:
1
Please enter course code:
CS311
Course number (1) in level ( 1)
Update Course:
-----
Please enter course information:
Course Code:
CS311
Course Title:
Object Oriented Programming 1
Instructor Name:
Dr. A. Smith
Credit Hours:
3.5
Room Number:
12
```