The University Of Sheffield.
International Faculty
CITY College.

Computer Science Department.

OBJECT-ORIENTED PROGRAMMING
LAB 09: Exceptions

Introduction

This Lab is about using exceptions to create more robust applications.

By the end of this lab the student should know how to:

- Create user defined exceptions
- Throw exceptions
- Handle exceptions

The scenario is that you have to implement the needed classes for a virtual person drinking coffee in a virtual cafe

1. **CoffeeCup:** A cup of coffee with two attributes: temperature and content volume in ml (download from MOLE).

2. **TemperatureException:** A user-defined exception representing an abnormal situation relating to temperature.

3. **TooHotException:** A kind of temperature exception specialized for hot temperatures.

4. **TooColdException:** A kind of temperature exception specialized for cold temperatures.

5. **VirtualPerson:** A virtual person must be able to drink coffee so we must implement the method `drinkCoffee`. The method may throw a `TooColdException` or a `TooHotException` because this person can only drink coffee with a temperature in the range of [65, 85]. This range is the same for all virtual persons and never changes.

6. **VirtualCafe:** A virtual café is a class for serving customers with coffee. We are *not* going to use it for creating objects and this is why the only method it will contain, `serveCustomer`, will be *static*. Serving the coffee should handle any exceptions thrown.

7. **VirtualCafeProgram:** Define your main method in this class. Create a virtual person and a cup of coffee and serve the coffee to the person. Create a lot of different temperature scenarios to in order to understand how exceptions work.

From the **LIBRARY Lab Handout** you may now do exercise(s):
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