

Assignment 04

Abstract Class & Interfaces

Submission Deadline: April 30, 2021

Design a System of Abstract classes, Interfaces and Classes that fulfill the following criteria:

1. An **abstract class** called **Person** with Full name, NID and date of birth and appropriate getter and setter methods. Should override toString method for Object class. May or may not contain an abstract method - your choice. However, explain your choice in comments for the class definition.
2. An **interface** called **Teacher** which has an **abstract method** returning a String containing the teacher ID for the teacher. The teacher ID format can be different for teachers from different institutions.
3. An **interface** called **Student** which has an **abstract method** returning a String containing the Student ID for the teacher. The Student ID format can be different for students from different institutions.
4. A normal (non-abstract class) called **NSUer** - which is a person and a student.
5. A normal (non-abstract class) called **NSUTeachers** - which is a person and a teacher.
6. A normal (non-abstract class) called **NSUStaff**. NSU Staff can teach at NSU and also enroll in different classes as a student at NSU.
7. For point 4,5 and 6 - implement appropriate getter and setter method and override appropriate methods. Add extra data or static fields if necessary.
8. Create a main method in a **Runner** class that creates objects of the three non-abstract classes and exercises the overridden methods from the abstract class and interface.

In the submission PDF, submit the UML diagram of the Abstract classes, interfaces and non-abstract classes. Show the relationship between the Abstract classes, interfaces and non-abstract classes in the UML diagram.

Submit the UML diagram in the PDF, and associated code in google classroom with output snapshot.