KAZAKH BRITISH
TECHNICAL
UNIVERSITY

Object-Oriented programming and design

Laboratory work #5 (3 pts)
Interfaces
Deadline: week 10

#1

a. When to use an Interface vs when to use an abstract class. For each "when" provide extended example(s) (with class/interface codes).
b. Suppose you have an interface `Moveable`. Think of some interface that can extend it. Implement this two interfaces.

#2

Extend Employee and Manager classes created in lab#3.

- Replace field `year` by the field `hireDate` of type `java.util.Date`
- Your classes should implement Comparable interface. (Employee1 > Employee2 if its salary is more than the salary of Employee2, the same for managers, but if their salaries are equal, compare by `bonus`).

#3

A collection represents a group of objects, known as its elements. Some collections allow duplicate elements and others do not. Some are ordered and others unordered. Create an Interface `MyCollection` which is maximum general (abstract) collection possible.

#4

You need to write a class `MinMax` with a method `minmax` that takes an array of integers as a parameter and returns min and max simultaneously (using one method and one call).
Hint: use inner class

```
public class MinMax {
       static class ??? {

      }
       static ??? minmax(int values[]){

             return ???;
             }
```

Test class:

```
                  int a[] = {0, 8 , -3, 20};
                  MinMax m = new MinMax();
                  // Do something to find min and max using instance m of
      class MinMax.
```