

Programming I. Introduction to OOP

Lab #3

Notes

Folder organization for solutions on the student's account:

```
Z:\
|--Programming01
|----Lab01Problem01
|----Lab01Problem02
|----...
|----Lab02Problem01
|----...
--Programming02
```

Problem #1: "Absolute Value of Real Number" (0.5%)

Description: the application reads real number from the standard input and then outputs its absolute value.

```
some real number? -123.345
|-123.345| = 123.345
```

```
some real number? 12.4
|12.4| = 12.4
```

Problem #2: "The Maximum Value between Two Numbers" (0.5%)

Description: the application reads two integer numbers from the standard input and finds out which number is the greatest one between them.

```
1st number? 123
2nd number? 56
The first number (123) is the greater than second (56).
```

```
1st number? 423
2nd number? 1122
The second number (1122) is the greater or equal to first (423).
```

Problem #3: "The Maximum Value between Three Numbers" (0.5%)

Description: the application reads three integer numbers from the standard input and finds the greatest value between all of them.

Sample #1:

```
1st number? 12
2nd number? 7
3rd number? 539
The value 539 is the greatest one.
```

Sample #2:

```
1st number? 74
2nd number? 23
3rd number? 23
The value 74 is the greatest one.
```

Problem #4: "Leap Years" (0.5%)

Description: the application determines whether a certain year is a leap year.

Test data:

Leap years:

1796, 1804, 1896, 1904, 1992, 1996, 2000, 2004, 2008

Common years:

1799, 1800, 1801, 1802, 1803, 1805, 1899, 1900, 1901

```
Year? 2000
This is a leap year.
```

```
Year? 1800
This is not a leap year.
```

Problem #5: "Grades" (0.5%)

Description: for a given grade in points (or percent), the application should give all possible alphabetical grades.

Conversion table:

90 <= A <= 100

80 <= B < 90

70 <= C < 80

60 <= D < 70

Below 60: F

```
Number of points? 73
Grade: C
```

```
Number of points? 120
120 is not in the permitted range.
```

Home Reading: Liang Introduction to Java Programming 8th ed. 3 Chapter (H:\Courses
Information Support\Natural Sciences and Information Technologies\COM 111 Programming I.
Intro to OOP\Books)