Lab 04

**Rules:**

* Always create a separate Java file for each program you write in the lab (e.g., problem1.java, problem2.java, etc.)
* Do not forget to take your work with you when you leave the lab by either copying your work files to your own USB flash disk, or by e-mailing them to yourselves.

1. Write a Java program that does the following:
2. Create a Java file with the name **problem1.java**.
3. Prompt the user to enter a hurricane category number.
4. Use a nested if-then-else statement to print the wind speed of the hurricane category the user entered.

For a category 1 hurricane, the wind speed is 74-95 mph

For a category 2 hurricane, the wind speed is 96-110 mph

For a category 3 hurricane, the wind speed is 111-130 mph

For a category 4 hurricane, the wind speed is 131-155 mph

For a category 5 hurricane, the wind speed exceeds 155 mph

Sample run of the program:

Enter a category of hurricane (1 through 5): 3

The wind speed is 111-130 mph.

1. Write a Java program that does the following:
2. Create a Java file with the name **problem2.java**.
3. A shoe store gives a 10% price reduction on any shoes with an original price of $125 or more.
4. Prompt the user to enter an original price.
5. Use an if-then-else statement to determine if the original price qualifies for the reduction or not.
6. **If** the original price qualifies for the reduction, **then** compute and print the reduced price, **else** print that the original price does not qualify for the discount as well as the original price.

Sample run of the program:

What is the original price? 130

The reduced price is $117.

Sample run of the program:

What is the original price? 90

That does not qualify for a discount. The price is $90.

1. Write a Java program that does the following:
   1. Create a Java file with the name **problem3.java**.
   2. A store gives a discounted version of an item’s price.
   3. If the item’s original price is at most $100, then the discount is 20%, else the discount is 40%
   4. Prompt the user to enter an item’s original price.
   5. Print the discount percentage used as well as the item’s discounted price.

Sample run of the program:

What is the item’s original price? 80

The item qualifies for a 20% discount. The item’s discounted price is $64.

Sample run of the program:

What is the original price? 150

The item qualifies for a 40% discount. The item’s discounted price is $90.

1. Write a Java program that does the following:
2. Create a Java file with the name **problem4.java**.
3. Prompt the user for three integers.
4. Compare the three integers using if statements.
5. Print **Increasing** if the three integers are in strictly increasing order, meaning each integer is larger than its predecessor.
6. Or, print **Decreasing** if the three integers are in strictly decreasing order, meaning each integer is smaller than its predecessor.
7. Otherwise, print **Neither**.

Sample run of the program:

Enter three numbers: 11 21 22

Increasing

Sample run of the program:

Enter three numbers: 11 17 17

Neither

Sample run of the program:

Enter three numbers: 11 7 2

Decreasing

1. Write a Java program that does the following:
2. Create a Java file with the name **problem5.java**.
3. Prompt the user to enter a month as an integer: 1 for January, 2 for February, and so on.
4. Print the number of days in the month. For February, print **28 or 29 days**.

Sample run of the program:

Enter a month: 7

31 days

Lab Work Submission:

* You can continue to work on this lab after our lab class, on your own, at home.
* Submit your lab work via Blackboard on or before: **Wednesday, September 13, 2023, 11:59pm**.
* The only accepted submission method!
* Once you submit your assignment you will not be able to resubmit it!
* Make absolutely sure the Java files you want to submit are the Java files you want graded.
* You will not be able to submit your lab work under any circumstances once **Lab04** disappears at **12:00 a.m.** on **Thursday, September 14, 2023**.
* There will be **NO** exceptions to these rules!
* To submit your lab work, upload the 5 Java files (**with .java extension**) you did for this lab to the **Lab04** assignment in the **Labs** tab in your Lab section’s presence in Blackboard.
* Then, make sure you click the **Submit** button to submit your lab work.