Hands-on Activity
Fruit Basket

Objective:

At the end of the exercise, the students should be able to:

- Implement stacks in both Java and Python.

Software Requirements:

- NetBeans IDE
- Java Development Kit (JDK) 8
- Python 3.7 or higher

Procedure:

1. Create a folder named *LastName_FirstName* in your local drive. (ex. Reyes_Mark)

2. Using NetBeans, create a Java project named **FruitBasket**. Set the project location to your own folder.

3. Import **Scanner** and **Stacks** from the **java.util** package.

4. Create a **Stack** object named **basket**.

5. The output shall:

    5.1. Ask the user to input the number of fruits s/he would like to catch.

    5.2. Ask the user to choose a fruit to catch by pressing **A** for apple, **O** for orange, **M** for mango, or **G** for guava.

    5.3. Display all the fruits that the basket has.

    5.4. Ask the user to enter **E** to start eating a fruit.

    5.5. Display the fruits remaining each time **E** is entered and "**No more fruits**" when the basket becomes empty.

6. Convert your code into a Python script. Use the **range()** function to allow the user to input multiple times. For example, if the user has to enter input five (5) times, the code will be **for i in range(5)**. The variable **i** represents numbers 1 to 5. Since the user input is only a one-character string, refer to the sample code below to add a fruit to the basket. The variable **i** represents all the one-character strings entered by the user. The functions **upper()** and **lower()** allow case-insensitive input.

    ```
    for i in keys:
        if i.upper() == "A":
            basket.append("apple")
    ```

7. Save the script as **fruit_basket.py** to your folder.

See sample output for Python on the next page.

```
Catch and eat any of these fruits:('apple', 'orange', 'mango', 'guava')
How many fruits would you like to catch? 4
Choose a fruit to catch. Press A, O, M, or G.
Fruit 1 of 4: m
Fruit 2 of 4: o
Fruit 3 of 4: a
Fruit 4 of 4: a
Your basket now has: ['mango', 'orange', 'apple', 'apple']
Press E to eat a fruit. e
Fruit(s) in the basket: ['mango', 'orange', 'apple']
Press E to eat a fruit. e
Fruit(s) in the basket: ['mango', 'orange']
Press E to eat a fruit. e
Fruit(s) in the basket: ['mango']
Press E to eat a fruit. e
No more fruits
```

GRADING RUBRIC (100 points):

Criterion	Description	Max Points
Correctness	The code produces the expected result.	40
Logic	The code meets the specifications of the problem.	40
Efficiency	The code is concise without sacrificing correctness and logic.	10
Syntax	The code adheres to the rules of the programming language.	10