UNIVERSITY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE

Session: Session 2022/2nd Semester/Spring 2022 | Exam: Quiz 1 | Time: 60 min
Subject: Object Oriented Programming | Total Weightage: 10 | Total Marks: 10

Student Name _____ **Roll Number** _____

Question # 1: (IceCream Sweetness)

Create a function which takes a List of *instances* from the class **IceCream** and returns **the sweetness value of the sweetest ice cream**.
Sweetness is calculated from the ***flavor*** and ***number of sprinkles***. Each sprinkle has a *sweetness value of 1*, and the sweetness values for the flavors are as follows:

Flavors	Sweetness Value
Plain	0
Vanilla	5
ChocolateChip	5
Strawberry	10
Chocolate	10

You'll be given instance properties in the order flavor, numSprinkles.

Test Case:

Input Format:
5
Chocolate 13
Vanilla 0
Strawberry 7
Plain 18
ChocolateChip 3

```
IceCream ice1 = new IceCream("Chocolate", 13);
// value of 23
IceCream ice2 = new IceCream("Vanilla", 0);
// value of 5
IceCream ice3 = new IceCream("Strawberry", 7);
// value of 17
IceCream ice4 = new IceCream("Plain", 18);
// value of 18
IceCream ice5 = new IceCream("ChocolateChip", 3);
// value of 8

sweetestIcecream([ice1, ice2, ice3, ice4, ice5]) ➞ 23

sweetestIcecream([ice3, ice1]) ➞ 23

sweetestIcecream([ice3, ice5]) ➞ 17
```

Question # 2: (Smoothie)

Create a class **Smoothie** and do the following:

- Create a property for list of **Ingredients**.
- Create a **GetCost** method which calculates the total cost of the *ingredients used* to make the smoothie.
- Create a **GetPrice** method which returns the number from **GetCost plus** the number from **GetCost** multiplied by **1.5**. Round to **two decimal places**.
- Create a **GetName** method which gets the ingredients and puts them in **alphabetical order** into a nice descriptive sentence. If there are multiple ingredients, add the word *"**Fusion**"* to the end but otherwise, add *"**Smoothie**"*. Remember to change **"berries"** to **"berry"**. See the examples below.

Ingredient	Price
Strawberries	£1.50
Banana	£0.50
Mango	£2.50
Blueberries	£1.00
Raspberries	£1.00
Apple	£1.75
Pineapple	£3.50

Test Case:

Input Format:
1
Banana

```
Smoothie s1 = new Smoothie({ "Banana" });
s1.Ingredients ➞ { "Banana" }
s1.GetCost() ➞ "£0.50"
s1.GetPrice() ➞ "£1.25"
s1.GetName() ➞ "Banana Smoothie"
```

Input Format:
3
Raspberries
Strawberries
Blueberries

```
Smoothie s2 = new Smoothie({ "Raspberries", "Strawberries",
"Blueberries" });
s2.ingredients ➞ { "Raspberries", "Strawberries", "Blueberries" }
s2.GetCost() ➞ "£3.50"
s2.GetPrice() ➞ "£8.75"
s2.GetName() ➞ "Blueberry Raspberry Strawberry Fusion"
```