

## Skill Assignment 4

This is an individual skill assignment. You may receive help from other class mates, but you may NOT copy their work. Copied work will be considered plagiarism and dealt with according to the syllabus and university policy.

**Objective:** For this skill assignment, you will demonstrate that you can properly create an industry-standard class diagram using a CASE tool. The members must conform to all expectations regarding data type, member visibility, and static depictions.

**Description:** Creating proper plans and documentation diagrams is an essential task in object-oriented programming. Use of industry standard diagrams is a crucial skill for programmers to develop. You will create a class diagram conforming to all UML expectations. This diagram will contain and properly depict all members necessary to support the description provided below.

**Assignment:**

- Create a class diagram using a CASE tool such as Astah Professional:
  - Depict 2 classes
    1. Utilities class
      - Contains 7 constants that will contain decimal data values:
        1. SALESTAXRATE
        2. SCOOPCOST
        3. CHOCOLATEMARKUP
        4. VANILLAMARKUP
        5. STRAWBERRYMARKUP
        6. CONECOST
        7. SUGARUPCHARGE
      - Contains 3 static methods that will all calculate and return decimal data values:
        - calcSubTotal
          - 1 parameter of type IceCream
        - calcSalesTax
          - 1 parameter for decimal data value subtotal amount
        - calcGrandTotal
          - 3 parameters:
            1. 1 for decimal data value subtotal amount
            2. 1 for decimal data value sales tax amount
            3. 1 for decimal data value discount percentage
    2. IceCream class
      - Contains 4 instance data members:
        1. flavor that will contain text data values
        2. numOfScoops that will contain whole number data values
        3. coneType that will contain text data values
        4. taxable that will contain true/false data values
      - Contains 6 instance methods that will return data value types as appropriate to their function
        1. Constructor with appropriate parameters
        2. toString
        3. getFlavor
        4. getNumOfScoops

5. getConeType
6. isTaxable

➤ Upload your .PNG class diagram file to the appropriate Blackboard assignment