ICD 2O0

***Unit 3 Assignment: Python Operations and Expressions   
Ice Cream Cost Calculator***

You have been offered a job of working at an ice cream stand for the summer. Write a program in Python that takes a customer’s order of an ice cream cone, and then calculates and prints out the cost. Specifically, your program should do the following:

* Print out the following information to the screen for the customer who will be using your program:
  + The *types of ice cream* that are available (eg: *chocolate*, *vanilla*, etc…). This will be up to you to choose. You should give *at least 4 choices* of ice cream.
  + The cost of each *ice cream scoop* is $0.95.
  + The cost of each *cherry* (on top of the ice cream) is $0.35.
  + The cost of the cone is $3.99 (everyone gets a cone).
* Ask the customer to enter (type in) the following info. Each of these should be then stored into its own *separate variable*:
  + The *type of ice cream* they would like.
  + The *number of scoops* they would like on their ice cream cone.
  + The *number of cherries* they would like on their ice cream cone.
  + A *tip* amount (eg: $$ for good service).
* Calculate the following values, and store each into its own *separate variable*:
  + A picture containing whiteboard

    Description automatically generatedThe *subtotal cost* of the ice cream, based on the number of scoops, number of cherries, and the cost of the cone.
  + The *HST sales tax* (13%) of the ice cream.
  + The *final total* of the ice cream, including HST sales tax, and the tip amount.
* Print out each of the calculated values to the screen, according to the sample output below. All money values should be rounded to *two decimal places*,   
  and should include a **$** sign in front of it.
* Below is a *sample* of what the **output** of your program should look like when run:

**Hello and welcome to *YourName*’s Ice Cream Stand!**

**This program will calculate the cost of your ice cream order.**

**Types of ice cream available: vanilla, chocolate, strawberry, peppermint  
Cost of the cone: $3.99**

**Each scoop of ice cream costs $0.95, and each cherry on top costs $0.35**

**Please enter the type of ice cream: chocolate**

**Please enter the number of scoops: 3**

**Please enter the number of cherries: 2**

**Please enter a tip amount: $1.25**

**-----------------------------------------------------------------**

**YOUR ICE CREAM ORDER:**

**-----------------------------------------------------------------**

**You have ordered the chocolate ice cream cone.**

**You have asked for 3 scoop(s) and 2 cherr(ies) on top.**

**The subtotal before HST sales tax is: $ 7.54**

**The HST sales tax is: $ 0.98**

**You have provided a tip of: $ 1.25**

**The final total, including 13% HST sales tax and tip, is: $ 9.77**

**Thank you for using the Ice cream cost calculator program.**

**Enjoy your ice cream!**

**-----------------------------------------------------------------**

***Assignment Rubric – This assignment will be assessed as follows:***

|  |  |
| --- | --- |
| ***Ice Cream Calculator Program - Success Criteria*** |  |
| **Knowledge – Appropriate use of the concepts:**   * *Variable and constant types.* * *Input and output functions.* * *Rounding function for formatting output* | /10 |
| **Application – The program correctly completes the task:**   * *Displays the welcome message for the user, and each of the costs for the scoops, cherries, and cone.* * *Provides at least 4 options for types of ice cream.* * *Take input from the user (ice cream type, # of scoops, # of cherries, tip amount), and stores each value into a separate variable.* * *Correctly calculates, stores, and outputs the subtotal.* * *Correctly calculates, stores, and outputs the sales tax.* * *Correctly calculates, stores, and outputs the final total.* * *Prints out all of the calculated values, with money values correctly displayed to 2 decimal places.* * *The output matches the sample output given.* | /10 |
| **Communication – Structure and clarity of the code:**   * *Includes title/name/date at start of the program.* * *Program is commented throughout, explaining the key parts/items.* * *Variables/constant values have appropriate and descriptive names.* * *Program is organized and structured: code is properly spaced out and grouped into different sections.* | /5 |
| **Thinking – Program efficiency and enhancement:**   * *Program is well thought out and efficient.* * *Program contains at least one additional feature/enhancement, beyond the stated requirements.* | /5 |
| **Total: /30** | |