EXAMPLE 2

Problem: Oversimple Pizza only sells plain cheese pizzas. A large pizza costs $10.37, a medium costs $8.13, and a small costs $5.25. There is no sales tax. Write a program to determine the cost of one pizza.

Analysis:

The input is the customer’s choice of large, medium, or small. The output is the cost. But there is an issue with the input: the customer is going to tell the clerk what size pizza she wants, and the clerk is going to run this program to get a price. We want to keep the clerk’s work as simple as possible. So we’ll have the clerk type a single character, which should be L, M, or S. That is, the input will be a data item of data type Character.

Variables table:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data Type** | **Usage** |
| SizeCode | Character | Code letter for the customer’s choice |
| PizzaPrice | Float | The price of the ordered pizza |

Test Cases:

|  |  |
| --- | --- |
| **Size selected (Input)** | **Price (Output)** |
| L | $10.37 |
| M | $8.13 |
| S | $5.25 |

**Pseudocode**

Begin program

Declare Character SizeCode

Declare Float PizzaPrice [1]

// Data acquisition

Print “Type L for large, M for medium, or S for small”

Input SizeCode

//Computation

If (SizeCode == 'L' ) Then

Price = 19.37

Else if (SizeCode == 'M' )

Price = 8.13

Else if (SizeCode == 'S')

Price = 5.25

Endif

Print “Your pizza costs “ + Price

End program

Note 1: There is a common convention that character constants are indicated in single quotes, such as

'L', 'M', or 'S'. This convention is used in many programming languages including C and Java.

Note 2: 'X' and "X" are not the same thing. 'X' is a character, whereas "X" is a String of length 1.

Price = 5.25

SizeCode == ‘L’

SizeCode == ‘S’

SizeCode ==‘M’

Price = 8.13

Price = 19.37

Print “Your pizza costs” + Price

Input SizeCode

Print “Type L for large, M for medium, or S for small”

Yes

Yes

Yes

No

No

No