Extras

* Any unit to any unit conversions
* Partial Cakes
* Error checking in methods
* Total prices always displayed as two decimals

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| --- | --- | --- |
| Input | Processing | Output |
| userInput | //Main Algorithm  userInput = GetMenuChoice()  While(userInput != 3){  Route(userInput)  userInput = GetMenuChoice()  } |  |

Main

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
|  | DisplayMenu() | userInput |

GetMenuChoice()

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
|  | Display   1. Convert Units of Measure 2. Bakery POS 3. Exit |  |

DisplayMenu()

Route()

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| userInput | Switch(userInput)  Case “1”:  UnitConversion()  break;  Case “2”:  BakeryPOS()  break;  default:  display “Invalid input!”  break; |  |

UnitConversion()

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
|  | //conversion rates to 1 Gallon  double QUART = 4.0;  double PINT = 8.0;  double CUP = 15.773;  double OUNCES = 128.0;  double TABLESPOON = 256.0;  double TEASPOON = 768.0;    //get Starting and ending types and starting amount  System.Console.WriteLine("Enter type of starting units \n(Quart, Pint, Cup, Ounces, Tablespoon, Teaspoon, Gallon)");  string startingType = Console.ReadLine();  System.Console.WriteLine("Enter amount of starting units");  double startingAmount = double.Parse(Console.ReadLine());  System.Console.WriteLine("Enter the ending unit type");  string endingType = Console.ReadLine();  double gallonsFromStarting = 0.0;  double endingAmount = 0.0;    //conditional for starting type  if(startingType == "Quart"){  gallonsFromStarting = startingAmount / QUART;  }else if(startingType == "Pint"){  gallonsFromStarting = startingAmount / PINT;  }else if(startingType == "Cup"){  gallonsFromStarting = startingAmount / CUP;  }else if(startingType == "Ounces"){  gallonsFromStarting = startingAmount / OUNCES;  }else if(startingType == "Tablespoon"){  gallonsFromStarting = startingAmount / TABLESPOON;  }else if(startingType == "Teaspoon"){  gallonsFromStarting = startingAmount / TEASPOON;  }else if(startingType == "Gallon"){  gallonsFromStarting = startingAmount;  }else{  System.Console.WriteLine("Invalid unit type! Try again!");  UnitConversion();  }  //conditional for ending type  if(endingType == "Quart"){  endingAmount = gallonsFromStarting \* QUART;  }else if(endingType == "Pint"){  endingAmount = gallonsFromStarting \* PINT;  }else if(endingType == "Cup"){  endingAmount = gallonsFromStarting \* CUP;  }else if(endingType == "Ounces"){  endingAmount = gallonsFromStarting \* OUNCES;  }else if(endingType == "Tablespoon"){  endingAmount = gallonsFromStarting \* TABLESPOON;  }else if(endingType == "Teaspoon"){  endingAmount = gallonsFromStarting \* TEASPOON;  }else if(endingType == "Gallon"){  endingAmount = gallonsFromStarting;  }else{  System.Console.WriteLine("Invalid unit type! Try again!");  UnitConversion();  }  //print output  System.Console.WriteLine("The final conversion is " + endingAmount + " " + endingType);  Thread.Sleep(1000);  Console.Clear(); |  |

BakeryPOS()

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
|  | //constants  double WHOLE\_CAKE\_COST = 28.63;  double TAX = 0.07;  double DELIVERY\_FEE = 4.99;  //inputs  System.Console.WriteLine("Enter the number of cakes wanted (enter a decimal if a part of a cake is needed)");  double cakeNum = double.Parse(Console.ReadLine());  System.Console.WriteLine("Enter if delivery is needed (yes or no)");  string delivery = Console.ReadLine().ToLower();  System.Console.WriteLine("Enter tip percentage (X%)");  double tipPercent = (double.Parse(Console.ReadLine()) / 100);  //subtotal and delivery  double subTotal = cakeNum \* WHOLE\_CAKE\_COST;  double total = 0.0;  if(delivery == "yes"){  total += subTotal + DELIVERY\_FEE;  }else if(delivery == "no"){  total += subTotal;  }else{  System.Console.WriteLine("Invalid selection! Try Again!");  BakeryPOS();  }    //tax and tip calculations  total += total \* TAX;  total += subTotal \* tipPercent;    //round to two decimals  total = Math.Round(total, 2);    //final payment  System.Console.WriteLine("Your total for " + cakeNum + " cakes is $" + total);  System.Console.WriteLine("Enter payment amount");  double payment = double.Parse(Console.ReadLine());  payment = Math.Round(payment, 2);    total -= payment;  total = Math.Round(total, 2);  if(total > 0.00){  while(total > 0.00)  {  System.Console.WriteLine("Bill not paid in full, $" + total + " still owed!");  System.Console.WriteLine("Enter payment amount");  payment = double.Parse(Console.ReadLine());  total -= payment;  total = Math.Round(total, 2);  }  }  System.Console.WriteLine("You paid your entire bill!");  //change  if(total < 0.00)  {  total = Math.Round(total, 2);  System.Console.WriteLine("Change due is $" + Math.Abs(total));  }  Thread.Sleep(1000);  Console.Clear(); |  |