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CSC-117-02 Java Programming  
Due Date: 4/28/2021  
What does the program do: add, multiply, divide, subtract, input validation, quotient (methods implementation)

Design:

1. Start
2. Main method
   1. Initialize and declare variables
      1. Num1
      2. Num2
      3. Total = 0
      4. Difference = 0
      5. Product = 0
      6. Quotient = 0
      7. Option
      8. Repeat
   2. Create scanner
   3. Initiate method 1 (greetings)
   4. Num1 = Input()
   5. Num2 = Input()
   6. Total = Sum Method(Num1, Num2)
   7. Difference = subtraction method(Num1, Num2)
   8. Product = Multiplication Method(Num1, Num2)
   9. Quotient = Quotient Method(Num1, Num2)
   10. Display “To select from the menu enter Y or y”
   11. Set Repeat
   12. Do
       1. Method 4 (switch method)
       2. Display “to reselect from the menu enter y or Y to exit hit any other key”
       3. Set repeat

While (Repeat == Y OR Repeat == y)

1. Method 1 (greetings method)
   1. Display “welcome to methods class”
2. Method 2 (input method)
   1. Declare variables
      1. Value
   2. Create scanner
   3. Display “enter a number”
   4. Set value
   5. If(Value < 0)
      1. Value = input validation method
   6. Return value
3. Method 3(input validation method)
   1. Declare variables
      1. Number
   2. Create scanner
   3. Display “please enter a positive value”
   4. Set number
   5. While(number < 0)
      1. Display “please enter a positive value”
      2. Set number
   6. Return number
4. Method 4(switch method)
   1. Declare variables
      1. Option
   2. Create scanner
   3. Display “enter 1 to display sum”
   4. Display “enter 2 to display difference”
   5. Display “enter 3 to display product”
   6. Display “enter 4 to display quotient”
   7. Display “enter 5 to display numbers, sum, difference, product, quotient”
      1. Set option
   8. Switch statement
      1. Case 1: sum output method(Num1, Num2, Total)

break

* + 1. Case 2: subtraction output method(Num1, Num2, Difference)

Break

* + 1. Case 3: multiplication output method(Num1, Num2, Product)

break

* + 1. Case 4: division output method(Num1, Num2, Quotient)

break

* + 1. Case 5: output method(Num1, Num2, Total, Difference, Product,

Quotient)

break

* + 1. Default: display “invalid choice”

1. Method 5(sum method)
   1. Return(number 1 + number 2)
2. Method 6(sum output method)
   1. Display “the sum is” + sum
3. Method 7(subtraction method)
   1. Return(number 1 – number 2)
4. Method 8(subtraction output method)
   1. Display “the difference is” + difference
5. Method 9product method)
   1. Return(number 1 \* number 2)
6. Method 10(multiplication output method)
   1. Display “the product is” + product
7. Method 11(quotient method)
   1. Return(number 1/number 2)
8. Method 12(quotient output method)
   1. Display “the quotient is” + quotient
9. Method 13(output method)
   1. Display “the first number is” + number 1
   2. Display “the second number is” + number 2
   3. Display “the sum is” + sum
   4. Display “the difference is” + difference
   5. Display “the product is” + product
   6. Display “the quotient is” + quotient
10. End