

<b>Course Number</b>	CSci 120
<b>Descriptive Title</b>	Object-oriented Programming
<b>Programming Language</b>	Java

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<b>Problem Number</b>	2
<b>Activity Title</b>	Quarters, Dimes and Pennies

### Procedure Proper:

1. Write a program that tells what coins to give out for any amount of change from 1 cent to 99 cents. For example, if the amount is 86 cents, the output would be something like the following:

86 cents can be given as  
3 quarter(s) 1 dime(s) and 1 penny (pennies)

2. Use coin denominations of 25 cents (quarters), 10 cents (dimes), and 1 cent (pennies). Do not use nickel and half-dollar coins. Your program will use the following function (among others):

```
int[] computeCoin(int coinValue, int amountLeft)
//Precondition: 0 < coinValue < 100; 0 <= amountLeft < 100.
//Postcondition: return value must be a 1 by 2 integer array where the first element,
//is a number that is set equal to the maximum number
//of coins of denomination coinValue cents that can be obtained
//from amountLeft cents; and
//the second element, is the amountLeft, that was decreased by the
//value of the coins, that is, decreased by number*coinValue.
```

3. For example, suppose the value of the variable `amountLeft` is 86. Then, after the following call, the return value of the function will be [3, 11] (because if you take three quarters from 86 cents that leaves 11 cents):

```
computeCoins(25, amountLeft);
```

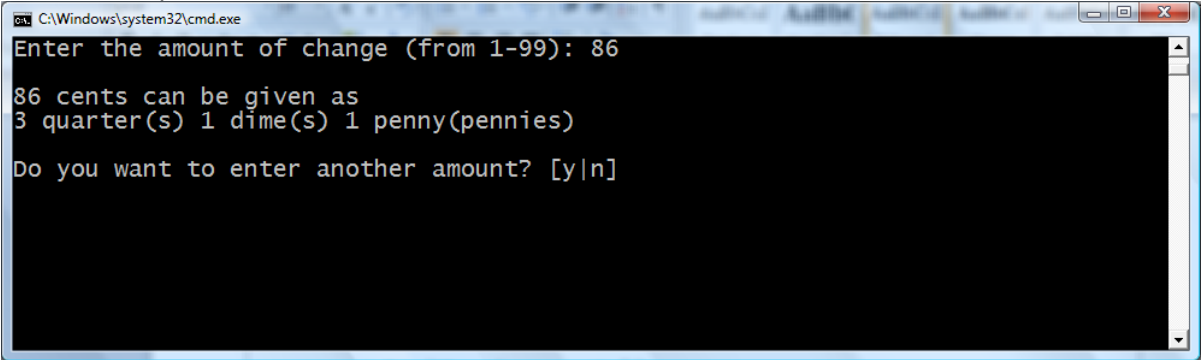
4. Include a loop that lets the user repeat this computation for new input values until the user wants to end the program.

#### Note:

- ✓ You have to check that the amount of change inputted should not be less than 1 and should not exceed 99.
- ✓ You might need to use integer division and the modulo (%) operator to implement the function.

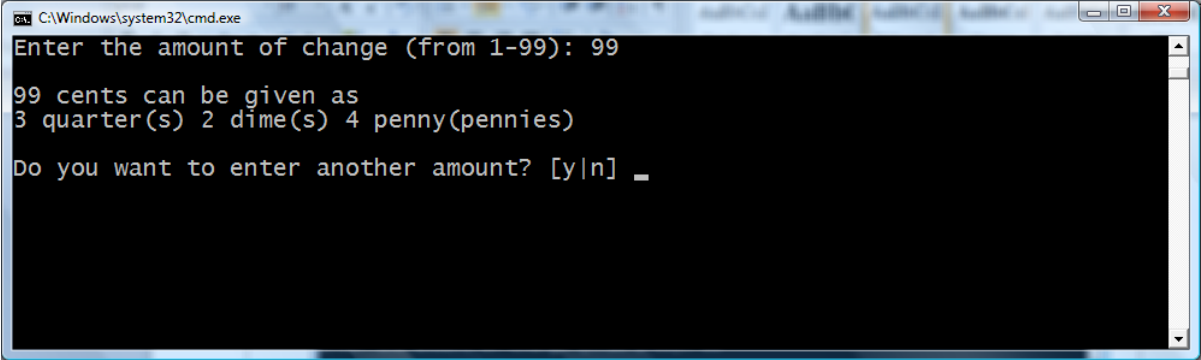
**Runtime Requirement(s):**

1. If the value inputted is 86;



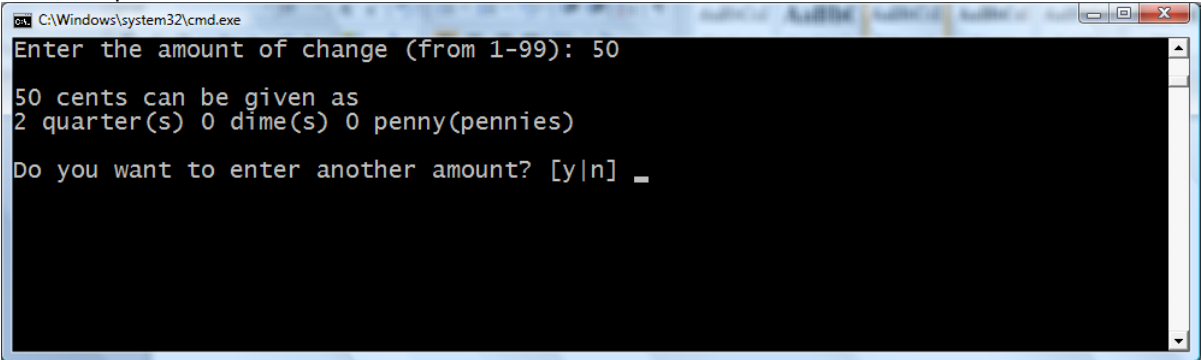
```
C:\Windows\system32\cmd.exe
Enter the amount of change (from 1-99): 86
86 cents can be given as
3 quarter(s) 1 dime(s) 1 penny(pennies)
Do you want to enter another amount? [y|n]
```

2. If the value inputted is 99;



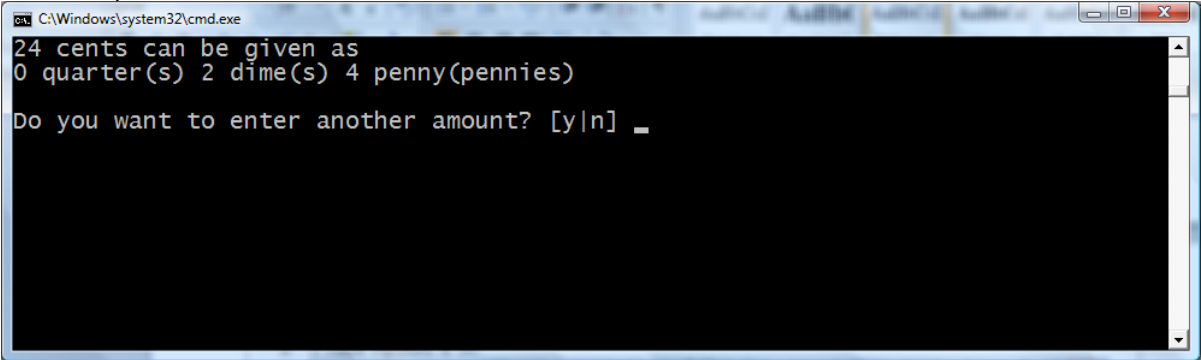
```
C:\Windows\system32\cmd.exe
Enter the amount of change (from 1-99): 99
99 cents can be given as
3 quarter(s) 2 dime(s) 4 penny(pennies)
Do you want to enter another amount? [y|n] _
```

3. If value inputted is 50;



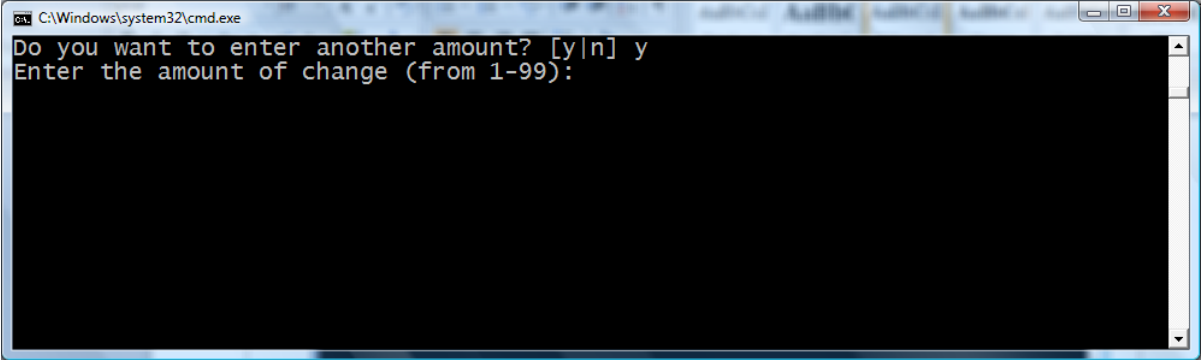
```
C:\Windows\system32\cmd.exe
Enter the amount of change (from 1-99): 50
50 cents can be given as
2 quarter(s) 0 dime(s) 0 penny(pennies)
Do you want to enter another amount? [y|n] _
```

4. If value inputted is 24;



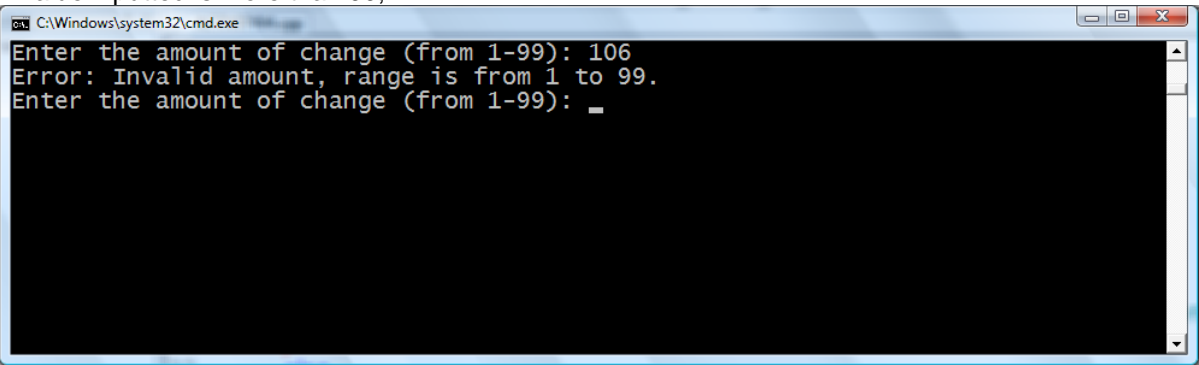
```
C:\Windows\system32\cmd.exe
24 cents can be given as
0 quarter(s) 2 dime(s) 4 penny(pennies)
Do you want to enter another amount? [y|n] _
```

5. If the user decides to compute another amount of change;



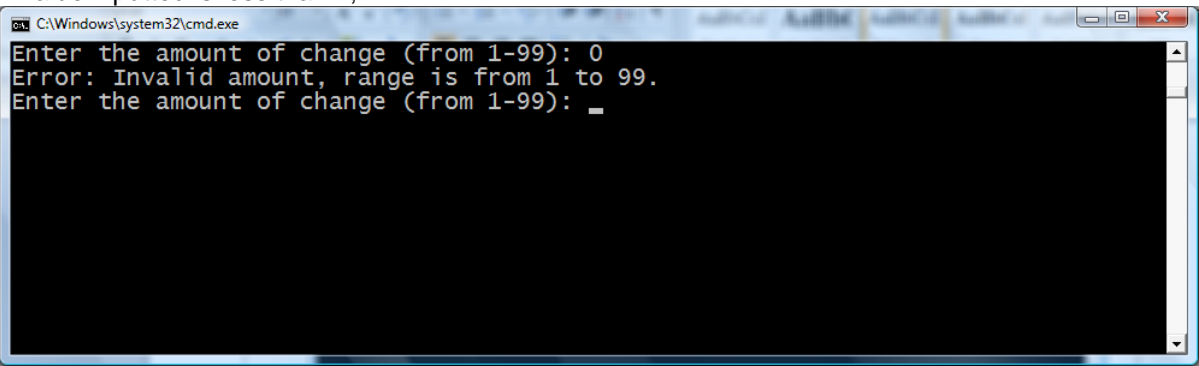
```
C:\Windows\system32\cmd.exe
Do you want to enter another amount? [y|n] y
Enter the amount of change (from 1-99):
```

6. If value inputted is more than 99;



```
C:\Windows\system32\cmd.exe
Enter the amount of change (from 1-99): 106
Error: Invalid amount, range is from 1 to 99.
Enter the amount of change (from 1-99): _
```

7. If value inputted is less than 1;



```
C:\Windows\system32\cmd.exe
Enter the amount of change (from 1-99): 0
Error: Invalid amount, range is from 1 to 99.
Enter the amount of change (from 1-99): _
```