

SwiftFunctions.swift &gt; coins(cents:)

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1 // Hunter Casillas
2 // IS 543
3 // Homework 2
4
5 import UIKit
6
7 // Compute the ith Fibonacci number
8 func fib(i: Int) -> Int {
9
10     if i == 0 {
11         return 0
12     } else if i == 1 {
13         return 1
14     }
15
16     return fib(i: i - 1) + fib(i: i - 2)
17 }
18
19
20 // Compute n! (factorial) for integer n ≥ 0
21 func factorial(n: Int) -> Int? {
22     if n < 0 {
23         print("Sorry, factorial must be positive.")
24         return nil
25     }
26
27     if n == 0 {
28         return 1
29     } else {
30         return n * factorial(n: n - 1)!
31     }
32 }
33
34 // Compute the sum of all integers between two given integers (inclusive)
35 func sum(first: Int, second: Int) -> Int {
36
37     var compute = 0
38
39     for i in first...second {
40         compute += i
41     }
42
43     return compute
44 }
45
46 // Given a number of cents, print the corresponding U.S. coins that total to the given number
47 func coins(cents: Int) {
48
49     var current = cents
50     var quarters = 0
51     var dimes = 0
52     var nickels = 0
53     var pennies = 0
54
55     if cents < 1 {
56         print("The number of cents must be positive.")
57     } else {
58         // Calculate quarters
59         while (current - 25) >= 0 {
60             quarters += 1
61             current = current - 25
62         }
63         // Calculate dimes
64         while (current - 10) >= 0 {
65             dimes += 1
66             current = current - 10
67         }
68         // Calculate nickels
69         while (current - 5) >= 0 {
70             nickels += 1
71             current = current - 5
72         }
73         // Calculate pennies
74         while (current - 1) >= 0 {
75             pennies += 1
76             current = current - 1
77         }
78
79         // Print answer
80         var answer = ""
81         // Add quarters
82         if quarters == 1 {
83             answer = "\(quarters) Quarter"
84         } else if quarters > 1 {
85             answer = "\(quarters) Quarters"
86         }

```

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87 // Add dimes
88 if dimes == 1 {
89     if answer == "" {
90         answer = "\(dimes) Dime"
91     } else {
92         answer += ", \(dimes) Dime"
93     }
94 } else if dimes > 1 {
95     if answer == "" {
96         answer = "\(dimes) Dimes"
97     } else {
98         answer += ", \(dimes) Dimes"
99     }
100 }
101 // Add nickels
102 if nickels == 1 {
103     if answer == "" {
104         answer = "\(nickels) Nickel"
105     } else {
106         answer += ", \(nickels) Nickel"
107     }
108 } else if nickels > 1 {
109     if answer == "" {
110         answer = "\(nickels) Nickels"
111     } else {
112         answer += ", \(nickels) Nickels"
113     }
114 }
115 // Add pennies
116 if pennies == 1 {
117     if answer == "" {
118         answer = "\(pennies) Penny"
119     } else {
120         answer += ", \(pennies) Penny"
121     }
122 } else if pennies > 1 {
123     if answer == "" {
124         answer = "\(pennies) Pennies"
125     } else {
126         answer += ", \(pennies) Pennies"
127     }
128 }
129 print(answer)
130 }
131 }
132

```