iOS Code Test

Task 1

Please consider the code snippet below,

```
import Foundation

struct CartProductResult {
    var id: Int
    var title: String
    var quantity: Int
}

let cartProducts = [
    CartProductResult(id: 1, title: "nike shoe 1", quantity: 5),
    CartProductResult(id: 2, title: "nike shoe 2", quantity: 2),
    CartProductResult(id: 3, title: "soap", quantity: 6)
]
```

Code: 1-1

Write the code that will produce the output as seen in **Output:1-1** using the code from the snippet above in **Code:1-1**

```
/// Print `cartProducts` in this format as specified:
/// * id1-title1
/// * id2-title2
/// * id3-title3
```

Output: 1-1

Task 2

Consider the code snippet below,

```
struct SearchProductResult {
    var id: Int
    var title: String
    var position: Int
}

let productList: [SearchProductResult] = [
    SearchProductResult(id: 1, title: "nike shoe 3", position: 1),
    SearchProductResult(id: 5, title: "pen", position: 2)
]
```

Code: 2-1

Implement a function called `printProducts` that will print the contents of `productList` or `cartProducts` in the same format as seen in **Output: 1-1**.

```
printProducts(cartProducts)
printProducts(productList)
```

Code: 2-2

Task 3

Consider the code snippet below,

```
func printWithDelay(product1: CartProductResult, product2:
CartProductResult, completion: (@escaping ()-> Void)) {
       // Write your code implementation here
}
```

Code: 3-1

Write the code for the function body for Code in **Code: 3-1** so that when **Code:3-2** is called, it will produce the as seen in **Output:3-1**

```
printWithDelay(product1: cartProducts[0], product2: cartProducts[1])
{
    print("Done printing products")
}
```

Code: 3-2

```
    // Wait 1 second
    // Print id of first product
    // Wait 1 second
    // Print id of second product
    // Call completion
```

Output: 3-1

Task 4

Consider the code snippet below,

```
let json = """
{
  "id": "1",
  "options": [
    {
      "id": "11",
      "options": [
        {
          "id": "111",
          "options": []
        }
      ]
    },
    {
      "id": "2",
      "options": [
        {
          "id": "21",
          "options": []
        },
        {
          "id": "22",
          "options": [
            {
              "id": "221",
              "options": []
            }
          ]
        }
      ]
    }
  ]
}
"""
```

Code: 4-1

Write code that will create the appropriate object from the above string and then list out all the `ID`'s

Task 5

This is a slightly more involved task. You are to create a simple calculator app for iOS. You can choose between **Objective-C** or **Swift** to write your code and use **UIKit** or **SwiftUI** accordingly.

The things that we would look for are as follows

- Code Structure
- Reusable Code
- Design Patterns
- Modularity
- Tests
- UI
- Use the code to create a command line utility

Please add a README file with your comments on how you have addressed the points above. Please also mention anything in Task 5 that you want to draw attention to since it is something that you feel is your best code style or code.