AppWorks School / 2018 Summer - iOS Class
Remote Assignment - Week 2

Objective-Oriented Swift

1.

Declare class Animal with property gender, and method eat(). Data type of gender should be enum Gender as list below. Call eat() method will print I eat everything!

```
enum Gender {

    case male

    case female

    case undefined
}
```

2.

Declare class Elephant, Tiger, Horse inherit from Animal. Override the eat method to print what they usually eat.

3.

Declare a class Zoo with property weeklyHot which means the most popular one in the zoo this week. The code list below can’t run correctly. Please find what data type should A be, and solve the relative problem. Notice that tiger, elephant, horse are instances of class Tiger, Elephant, Horse.

```
class Zoo {

    var weeklyHot: A

    init(weeklyHot: A) { }
}

let zoo = Zoo(weeklyHot: Tiger())

zoo.weeklyHot = tiger
zoo.weeklyHot = elephant
zoo.weeklyHot = horse
```

4.
What have you learned in *Object-Oriented Swift* session ?

5.
What is the difference between Struct and Class ?

6.
What is the difference between instance method and type method ?

7.
What does Initilizer do in class(struct) ?

8.
What does self means in instance method ?

9.
What is the difference between reference type and value type ?

Enumerations and Optionals in Swift

1.

There are several gasoline types, 92, 95, 98, and diesel. We can use enum to model them.

- Please create enum named Gasoline to model gasoline.

- Every kind of gasoline has price. Please create a method named getPrice in Gasoline enum. The method will return difference price depend on difference gasoline.

- Please establish raw value for Gasoline. The data type of raw value should be String. For example, Gasoline.92.rawValue should be "92".

- Please explain what is enum's associate value and how to use it.

2.

Optional is a very special data type in swift. Take `var a: Int? = 10` for example, the value of a will be nil or Int. You should learn how to deal with optional data type.

- People would like to have pets, but not everyone could have one. Declare a class Pet with name property and a class People with pet property which will store a Pet instance or nil. Please try to figure out what data type is suitable for these properties in Pet and People.

- Please create a People instance and use guard let to unwrap the pet property.

- Please create another People instance and use if let to unwrap the pet property.

Protocol in Swift

1.

   Declare a struct Person with a name property type String, a protocol name PoliceMan. There is only one method arrestCriminals with no argument and return void in the protocol.

2.

   Make struct Person confirm to PoliceMan protocol.

3.

   Declare a protocol ToolMan with a method fixComputer, no argument and return void.

4.

   Add a property toolMan to struct Person with data type ToolMan.

5.

   Declare a struct named Engineer conform to ToolMan protocol.

6.

   Create a Person instance with name Steven. Please create the relative data you need to declare this instance.

Error Handling in Swift

```swift
enum GuessNumberGameError {

    case wrongNumber
}

class GuessNumerGame {

    var targetNumber = 10

    func guess(number: Int) throws {

        guard number == targetNumber else {

            throw GuessNumberGameError.wrongNumber
        }

        print("Guess the right number: \(targetNumber)")
    }
}
```

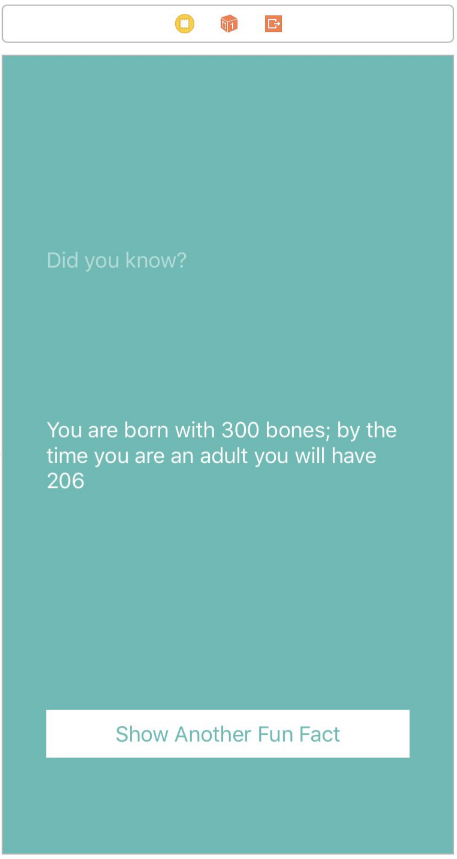
See the code above, just copy the code and paste in the playground file. There is an error inside the code.

1. Please solve the error by adding addition code in the file. Do not remove or modify the code above.

2. Call guess(number:) and pass 20 as argument.

Build a Simple iPhone App with Swift (Optional)

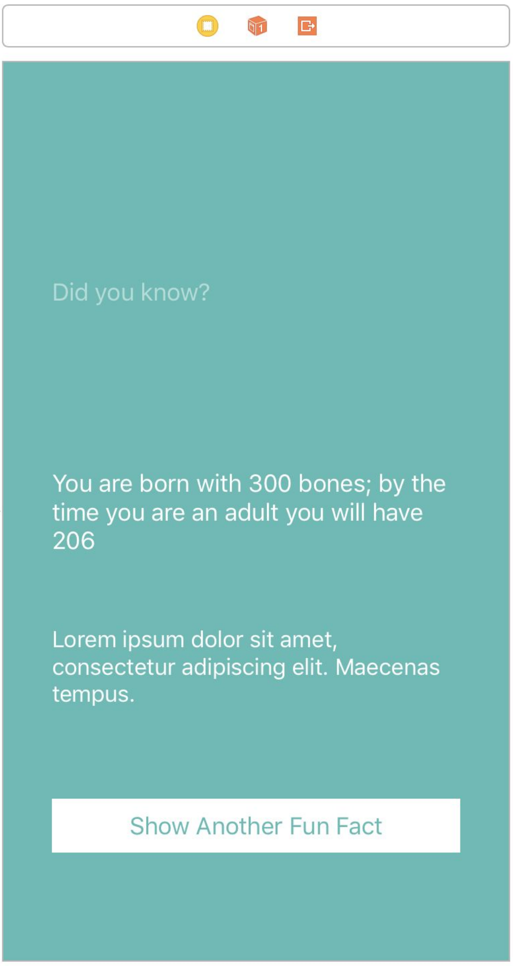
In Treehouse section: Build a Simple iPhone App with Swift, we build a simple app. The image below is the origin design for the app.



Did you know?

You are born with 300 bones; by the time you are an adult you will have 206

Now Let’s add some new feature, the image below is new design. We add a new label below the funFactLabel. The new label is named assignmentLabel. It is the same size between funFactLabel but 50 pixel below the funFactLabel. Every time we press the button, the text in the assignmentLabel will change. The text should be random, not in order.



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Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas tempus.

```swift
let text = [
    "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas tempus.",
    "Contrary to popular belief, Lorem Ipsum is not simply random text.",
    "Richard McClintock, a Latin professor at Hampden-Sydney College in ",
    "looked up one of the more obscure Latin words, consectetur",
    "from a Lorem Ipsum passage, and going through the cites of the word",
    "This book is a treatise on the theory of ethics, very popular during the.",
    "The first line of Lorem Ipsum, Lorem ipsum dolor sit amet..",
    "The standard chunk of Lorem Ipsum used since the 1500s is reproduced.",
    "There are many variations of passages of Lorem Ipsum available.",
    "but the majority have suffered alteration in some form"
]
```