Assignment No 8   Due date- 07/04/25

(Optionals)

1. Declare an optional Int variable named score and assign it a value of nil. Then, later assign it a value of 90.

2. What will happen if you force unwrap an optional that is nil? Try it in a Swift playground.

3. Write a function that takes an optional String and prints its value if it is not nil. Otherwise, print "No value".

4. Write a function that takes an optional Double and returns half of its value. If nil, return 0.0.

5. Use optional binding (if let) to safely unwrap an optional integer and print its value.

6. Define a class Book with an optional property author: String?. Create an instance of Book and use optional chaining to print the author's name if available.

7. Write a function that takes an optional dictionary [String: Int]? and returns the value of a given key. If the dictionary is nil or the key does not exist, return -1.

8. Implement a function that takes an optional sentence (String?) and returns the first word if available. Otherwise, return "No words".

9. Create a struct User with an optional property email: String?. Write a method inside the struct to return a valid email or "No email provided".

10. Implement a BankAccount class with a property balance: Double. The initializer should return nil if the initial balance is negative.

11. Implement a User struct that only allows usernames with at least 5 characters. If a shorter username is given, return nil.

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