Swift Practice Questions

Q1. *Write a program that asks the user for a number and then prints out whether the number is even or odd.*

```
var num : Int

if let line = readLine(), let inputNum = Int(line){
    num = inputNum

    if(num % 2 == 0){
        print("Even number!")
    }
    else if(num%2 != 0)
    {
        print("Odd number!")
    }

    else{
        print("Invalid number!")
    }
}
else {
    print("Input not provided!")
}
```

Q2. *Write a program that asks the user for their name and then greets them with their name.*

```
var name : String

if let name = readLine() {
    print("Hello, "+name)
}
else{
    print("Hello anonymous!")
}
```

Q3. *Write a program that calculates the sum of all the numbers from 1 to n, where n is a number the user enters.*

```
print("Enter a number: ")


if let input = readLine(), let num = Int(input)
{
    var sum : Int = 0
    for i in 1...num{
        sum += i
    }
    print("Sum of first \(num) numbers: \(sum)")
}
else {
    print("Input not provided!")
}
```

Q4. *Write a program that takes an array of numbers and returns the largest number in the array.*

```
// Largest number from the given array

var nums: [Int] = []

print("Enter the size of the array: ")
if let input = readLine(), let n = Int(input) {
    for _ in 1...n {
        print("Enter a number: ")
        if let inp = readLine(), let num = Int(inp) {
            nums.append(num)
        } else {
            print("Invalid input. Please enter a valid number.")
        }
    }

    if let maxNum = nums.max() {
        print("Maximum number in the given array \(nums) is \(maxNum)")
    } else {
        print("The array is empty.")
```

```
    }
} else {
    print("Invalid input. Please enter a valid number for the array size.")
}
```

Q5. *Write a program that takes a string and returns the number of vowels in the string.*

```
// Count the number of vowels in the given string

var countVowel : Int = 0
if let input = readLine(){
    for char in input{
        if char == "a" || char == "e" || char == "i" || char == "o" || char == "u"
        {
            countVowel += 1
        }
    }
    print("Count of vowels in \(input) is \(countVowel)")
```

Q6. *Write a program that takes an array of strings and returns a new array with all the strings in uppercase.*

```
// Convert array of strings into UPPERCASE and return the array
var strings : [String] = []

print("Enter the size of array: ")
if let input = readLine(), let size = Int(input)
{
    for _ in 1...size{
        print("Enter string: ")
        if let str = readLine()
        {
            strings.append(str)
        }
        else {
            print("Invalid input, enter again!")
        }
    }

    // Now convert the strings into UPPERCASE
```

```
    for i in 0...size-1{
        strings[i] = strings[i].uppercased()
    }

    // Print the converted strings
    print("Converted to uppercase: \(strings)")
}
else{
    print("Invalid input. Please enter the valid array size.")
}
```

Q7. *Write a program that takes two arrays and returns a new array with all the elements that are common to both arrays.*

```
// Intersection of two arrays

var arr1 : [Int] = []
var arr2 : [Int] = []

// Take input from user
print("Enter size of array: ")
if let input = readLine(), let size = Int(input)
{
    for i in 1...2{
        print("Enter elements of array-\(i)")
        for _ in 1...size{
            print("Enter element of array: ")
            if let elem = readLine(), let num = Int(elem)
            {
                if i==1{
                    arr1.append(num)
                }
                else {
                    arr2.append(num)
                }
            }
        }
    }
    let set1 = Set(arr1)
    let set2 = Set(arr2)
    let commonElems = set1.intersection(set2)
    print("The intersection of \(arr1) and \(arr2) is \(commonElems)")
}
```

Q8. *Write a program that takes a number and prints out all the prime numbers up to that number.*

```
// Print prime numbers upto 'n'

var primeNums : [Int] = []

print("Enter a number: ")
if let input = readLine(), let num = Int(input)
{
    for i in 2...num{
        var isPrime = true
        // Check if 'i' is prime or not
        for j in 2..<i{
            if i % j == 0{
                isPrime = false
                break
            }
        }
        if isPrime{
            primeNums.append(i)
        }
    }
    print("Prime numbers upto \(num) is \(primeNums)")
}
```

Q9. *Write a program that takes a string and reverses the order of the words in the string.*

```
// Reverse the words in the given sentences

var str: String = ""
var newStr: String = ""

if let input = readLine() {
    str = input

    var prevIndex = str.startIndex
    var currentIndex = str.startIndex

    while currentIndex < str.endIndex {
        if str[currentIndex] == " " {
```

```
            let word = str[prevIndex..<currentIndex]
            newStr += String(word.reversed())
            newStr += " "
            prevIndex = str.index(after: currentIndex)
        }
        currentIndex = str.index(after: currentIndex)
    }

    let lastWord = str[prevIndex..<currentIndex]
    newStr += String(lastWord.reversed())
}

print(newStr)
```

Q10. *Write a program that takes two numbers and returns their greatest common divisor.*

```
// GREATEST COMMON DIVISOR

// Find GCD of two numbers

// Take two numbers from user

var nums : [Int] = []

for _ in 0..<2{
    if let input = readLine(), let num = Int(input)
    {
        nums.append(num)
    }
}

func gcd(a : Int, b : Int) -> Int
{
    // Find the GCD of two numbers
    if b==0{
        return a
    }
    return gcd(a : b, b : a%b)
}

print(gcd(a: nums[0], b: nums[1]))
```

Classes in Swift

```
class Person{
    // Data members
    var name : String
    var age : Int

    // Constructor
    init(name : String, age : Int)
    {
        self.name = name
        self.age = age
    }

    // Methods
    func sayHello()
    {
        print("Hello, I'm \(self.name)!")
    }
}

// Create some objects
var P1 : Person = Person(name : "Bikash", age : 22)
P1.sayHello()
```