### **Lab 2:** **If-Else and Switch Case in Swift**

Here's a lab exercise to help you practice using if-else statements and switch cases in Swift. This exercise includes basic conditional statements, handling multiple conditions, and using switch statements with different data types.

**Part 1: if-else Statements**

1. **Simple Condition:**

* Declare an integer variable temperature and initialize it with a value.
* Use an if-else statement to print "It's hot!" if the temperature is above 30 degrees, and "It's cold!" otherwise.

var temperature: Int = 35

if temperature > 30 {

print("It's hot!")

} else {

print("It's cold!")

}

1. **Multiple Conditions:**

* Declare an integer variable score and initialize it with a value.
* Use an if-else if-else statement to print "Excellent" if the score is 90 or above, "Good" if the score is between 75 and 89, "Pass" if the score is between 50 and 74, and "Fail" otherwise.

var score: Int = 85

if score >= 90 {

print("Excellent")

} else if score >= 75 {

print("Good")

} else if score >= 50 {

print("Pass")

} else {

print("Fail")

}

1. **Nested Conditions:**

* Declare an integer variable hour and initialize it with a value between 0 and 23.
* Use nested if-else statements to print "Good morning!" if hour is between 5 and 11, "Good afternoon!" if hour is between 12 and 17, "Good evening!" if hour is between 18 and 21, and "Good night!" if hour is between 22 and 4.

var hour: Int = 15

if hour >= 5 && hour <= 11 {

print("Good morning!")

} else if hour >= 12 && hour <= 17 {

print("Good afternoon!")

} else if hour >= 18 && hour <= 21 {

print("Good evening!")

} else {

print("Good night!")

}

**Part 2: switch Statements**

1. **Switch on Integer:**

* Declare an integer variable dayOfWeek and initialize it with a value between 1 and 7.
* Use a switch statement to print the corresponding day of the week (1 for Monday, 2 for Tuesday, etc.).

var dayOfWeek: Int = 3

switch dayOfWeek {

case 1:

print("Monday")

case 2:

print("Tuesday")

case 3:

print("Wednesday")

case 4:

print("Thursday")

case 5:

print("Friday")

case 6:

print("Saturday")

case 7:

print("Sunday")

default:

print("Invalid day")

}

1. **Switch on String:**

* Declare a string variable grade and initialize it with a value ("A", "B", "C", "D", "F").
* Use a switch statement to print the corresponding description (e.g., "Excellent" for "A", "Good" for "B", etc.).

var grade: String = "B"

switch grade {

case "A":

print("Excellent")

case "B":

print("Good")

case "C":

print("Average")

case "D":

print("Below Average")

case "F":

print("Fail")

default:

print("Invalid grade")

}

1. **Switch with Range:**

Declare an integer variable marks and initialize it with a value.

Use a switch statement with range matching to print "Excellent" for marks between 90 and 100, "Good" for marks between 75 and 89, "Average" for marks between 50 and 74, and "Fail" for marks below 50.

var marks: Int = 85

switch marks {

case 90...100:

print("Excellent")

case 75...89:

print("Good")

case 50...74:

print("Average")

case 0...49:

print("Fail")

default:

print("Invalid marks")

}

**Part 3: Practical Example**

1. **User Profile:**

* Declare variables username (string), age (integer), country (string), and isPremiumUser (boolean).
* Use an if-else statement to check if isPremiumUser is true. If so, print "Welcome, [username]! Thank you for being a premium user."
* Use a switch statement to print a message based on the country value (e.g., "Hello from the USA!" for "USA", "Bonjour from France!" for "France", etc.).

var username: String = "johndoe"

var age: Int = 25

var country: String = "USA"

var isPremiumUser: Bool = true

if isPremiumUser {

print("Welcome, \(username)! Thank you for being a premium user.")

} else {

print("Welcome, \(username)!")

}

switch country {

case "USA":

print("Hello from the USA!")

case "France":

print("Bonjour from France!")

case "Germany":

print("Guten Tag from Germany!")

case "Japan":

print("こんにちは from Japan!")

default:

print("Hello from \(country)!")

}

**Summary**

This exercise covers the use of if-else statements and switch cases in Swift. By completing these tasks, you will become familiar with conditional statements to control the flow of your Swift programs. Experiment with additional conditions and scenarios to further enhance your understanding of Swift's conditional statements.