TY CSE AY-2022-23 Sem-II

Sub: iOS Lab (6CS381)

Assignment No 2 **Due date- 29/01/2024**

 # a. Study and implementation of types, type safety and inference in swift.

Types and Type Safety

1. Declare two variables, one called `firstDecimal` and one called `secondDecimal`. Both should have decimal values. Look at both of their types by holding Option and clicking the variable name.

2. Declare a variable called `trueOrFalse` and give it a boolean value. Try to assign it to `firstDecimal` like so: `firstDecimal = trueOrFalse`. Does it compile? Print a statement to the console explaining why not, and remove the line of code that will not compile.

3. Declare a variable and give it a string value. Then try to assign it to `firstDecimal`. Does it compile? Print a statement to the console explaining why not, and remove the line of code that will not compile.

4. Finally, declare a variable with a whole number value. Then try to assign it to `firstDecimal`. Why won't this compile even though both variables are numbers? Print a statement to the console explaining why not, and remove the line of code that will not compile.

5. You have declared a number of constants and variables to keep track of fitness information. Declare one more variable with a boolean value called `hasMetStepGoal`.

6. When you declared a constant for goal number of steps and a variable for current step count, you likely assigned each a value in the thousands. This can be difficult to read. Redeclare this constant and variable and, when assigning each a value in the thousands, format the number so that it is more readable.

Type Inference and Required Values

7. Declare a variable called `name` of type `String`, but do not give it a value. Print `name` to the console. Does the code compile? Remove any code that will not compile.

8. Declare a variable called `distanceTraveled` and set it to 0. Do not give it an explicit type.
9. Now assign a value of 54.3 to `distanceTraveled`. Does the code compile? Go back and set an explicit type on `distanceTraveled` so the code will compile.

10. You decide that your fitness tracking app should show the user what percentage of his/her goal has been achieved so far today. Declare a variable called `percentCompleted` and set it to 0. Do not explicity assign it a type.

11. Imagine that partway through the day a user has taken 3,467 steps out of the 10,000 step goal. This means he/she is 34.67% of the way to his/her goal. Assign 34.67 to `percentCompleted`. Does the code compile? Go back and explicity assign a type to `percentCompleted` that will allow the code to compile.

#b. Study of debugging, building and running an app using Xcode. (Perform as per instruction in given book)

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