Assignment 1 - Create a Calculator App

Introduction

I created this App using a step-by-step Youtube tutorial, because this was my first time creating an App. The tutorial was really good as it used the newest versions of Xcode and Swift.

Learnings and Experiences

While creating this App I learned a lot:
* What an iOS App mainly consists of
* The `Main.storyboard` which is basically the designing part of the app where one can add **buttons** and **labels** and things like that. This is also the **front end** developing part.
* The `ViewController.swift` is the part that connects the front end with the actual logic behind it. I put the code for the calculator all in here, but I'm sure if the app gets bigger and more powerful the code should go into various files/classes from here.
* How to use Xcode
Opening Xcode for the first time is quite overwhelming and I'm glad I had a tutorial to get me accustomed with it. I only know the most basic things about it now and I was able to create a simple app which is nice.
* How to design an App fast and easy
The tutorial showed that there are several ways to make it really fast and easy to design the app using **stacks** and **constraints**. With these features you can align all the buttons correctly and never have to worry about accidentally changing an element of the app.
* Got an insight on Swift
I have a little understanding now on how **Swift** works, but it's not nearly enough yet to say that I *know* the language. I though it was a bit like a stripped down version of `C/C++`.
* How difficult crossplattform developement might be, if *cross-iPhone* is already pretty hard
In Xcode you have the opportunity to look at your app on other iOS devices and eventhough those are *almost* all the same, the app looked a bit different everytime. So I can only imagine how difficult it might be to develop a cross-plattform app that is actually pretty and usable(!) on all devices.
* That you need to have an Apple developer account to be able to deploy your iOS app to your device
I wasn't aware that you actually need to have an Apple developer account to be able to deploy your own app to your device. I would have liked to see my calculator app on my iPhone.

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Other experiences I made were:
* The versions of Xcode really make a difference
I noticed that the versions of Xcode differ quite a bit. The first tutorial I tried, I couldn't finish, because nearly every action was different in my version of Xcode.
* Tutorials are nice, but if you want to develop an app by yourself you need a good plan and strategy
If you follow a step-by-step guide , it's easy to make the right steps at the right time. I noticed that if you want to change something in the front end if the backend is already implemented it's not so easy and you might break something. So before I start creating a new app from scratch, I'll think about the front end a bit longer and only start the back end if I'm sure what I'm doing.

Technical Details about the app

The video to the tutorial can be found here https://www.youtube.com/watch?v=AoS9dsdcgLA

To develop I used: * MacBook Air (11 inch, Mid 2013)
* macOS High Sierra 10.13.3
* Xcode 9.2
* Apple Swift version 4.0.3 (swiftlang-900.0.74.1 clang-900.0.39.2)

The colors I chose are those of the Formula Student Team of the Hochschule Muenchen municHMotorsport which I am a member of.