**Laboratory Work #1. Working with Xcode and Project Setup**

**Objective:** The goal of this laboratory work is to familiarize students with the Xcode integrated development environment (IDE) and to guide them through the process of setting up a new project. Students will learn how to configure Xcode, create a new project, and understand the basic components of an Xcode workspace.

**Instructions:**

1. Install XCode.

Download and install Xcode from the Mac App Store if it is not already installed on your computer.   
The link:

<https://apps.apple.com/ru/app/xcode/id497799835?l=en-GB&mt=12>

Ensure that Xcode is updated to the latest version. (if u can’t download latest version because of OS version, don’t worry u can download old version).

1. Create a New Project.

* Open Xcode.
* Select "Create a new Xcode project" from the welcome window or choose "File" > "New" > "Project" from the menu.
* Select the template for the project, such as "App" under the iOS or macOS category and click "Next."
* Enter a product name, organization name, and identifier. Choose Swift or Objective-C as the programming language. Click "Next."
* Select a location to save the project and click "Create."

1. Explore the Xcode Workspace.

* Familiarize yourself with the different sections of the Xcode workspace, including the Project Navigator, Editor Area, and Debug Area.
* Explore the various files and folders created by Xcode, such as AppDelegate.swift, ViewController.swift, and Main.storyboard.

1. Configure Project Settings.

* Open the project settings by clicking on the project file in the Project Navigator.
* Review and configure build settings, deployment target, and other project settings as necessary.

1. Build and Run the Project.

* Select a simulator or connected device from the toolbar.
* Click the "Run" button (a play icon) to build and run the project on the selected device or simulator.
* Observe the output and ensure that the project builds and runs without errors.

1. Submit Your Work

* Take screenshots of your Xcode workspace, project settings, and simulator output.
* Write a brief report summarizing your experience with Xcode and the setup process.
* Submit the screenshots and report according to the instructions provided by your instructor.

**Evaluation Criteria:**

Project Creation: Successfully creating a new project with the correct configuration and settings.

Workspace Exploration: Demonstrating familiarity with the Xcode workspace and understanding the purpose of key files and components.

Configuration: Properly configuring project settings according to the requirements.

Build and Run: Successfully building and running the project without errors on the simulator or device.

Report and Documentation: Providing clear and concise screenshots and a well-written report that reflects the student’s understanding of the Xcode environment and project setup process.

Defence: Successfully defend it by answering all the teacher’s questions correctly.

Resources that you may find useful:

1. How to Install macOS Ventura on VirtualBox on Windows PC

<https://youtu.be/dxoko6UR7Fc?si=SfOQxe_fPWzzpKVy>

1. Install macOS in VirtualBox on Windows PC [Intel & AMD]

<https://youtu.be/vQJrM7HqezQ?si=hoeitdYUP8eYmnHv>

1. Install MacOS in Virtualbox on Windows PC (Enjoy MAC on Windows FREE) 2024

<https://youtu.be/g5y-I1kFKLg?si=e-9cYXA2544-DRd7>

1. Xcode: Краткий обзор для начинающих <https://youtu.be/YDjsA6iCkDY?si=m83KYMazdbJMvyrt>