

How to start and launch the product

To be able to run and use the product you will need the software 'Android Studio'. It is free to download. Link to the download page : <https://developer.android.com/studio>. If you already have Android Studio downloaded, please make sure it is updated to the latest version. The current latest version is 3.5.3.

- 1) First, download and unzip the main folder. The Android project file named 'ProgrammingApp2' will appear and is the folder that contains the actual product. Remember the location of that folder.
- 2) Launch Android Studio. A pop-up menu will appear. Click on the button 'Open an existing Android Studio Project'. A file directory will appear. Find the 'ProgrammingApp2' project file, select it and then click 'Ok'.

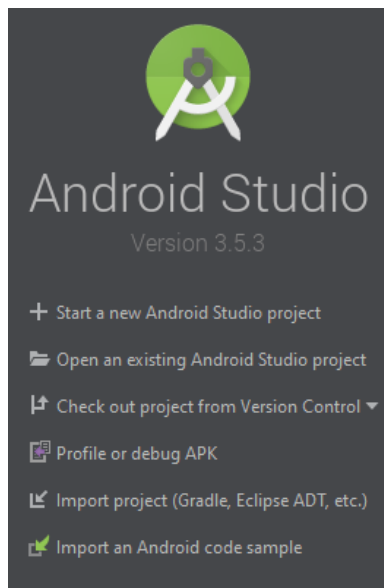


Figure 1 - Pop-up Menu

- 3) It will take a couple minutes to load the build and features. Wait till the build has been complete. It will look like figure 2 when it has been complete.

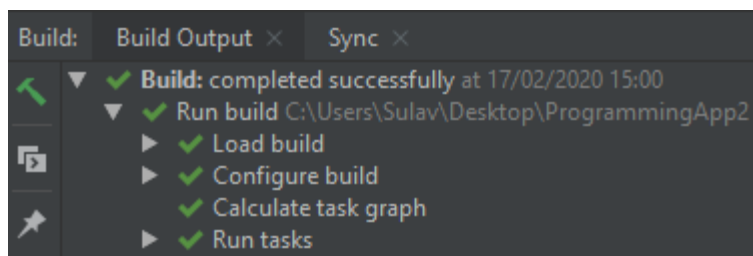


Figure 2 - Complete Build

- 4) Next, go to the top right and click on the 'AVD Manager' button.

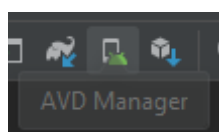


Figure 3 - AVD Manager Button

- 5) A pop-up menu will appear, click on the 'Create Virtual Device...' button.

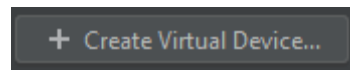


Figure 4 - Create Virtual Device Button

- 6) Then select the phone 'Pixel 3' and click 'Next'.

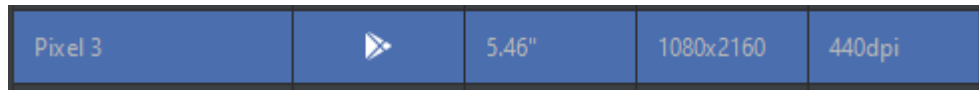


Figure 5 - Pixel 3

- 7) Then download and then select the Nougat API 24 system image. Click 'Next' and then 'Finish'.

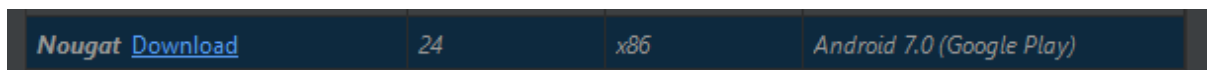


Figure 6 - API

- 8) After it has downloaded all the necessary files, the emulator you have just created should now appear in your AVD manager. Find the emulator and then click the green arrow to launch it.

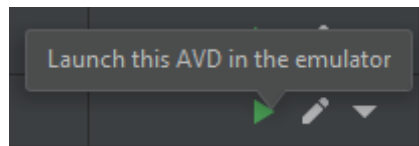


Figure 7 - Launch Emulator

- 9) A blank emulator will load and appear after few minutes.

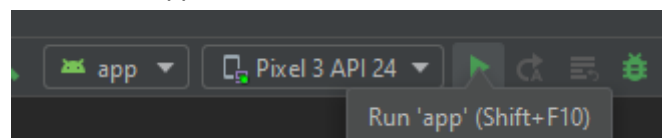


Figure 8 - Run app

10. The main menu page will appear after the app has been loaded successfully. It will look like figure 9. The app is successfully running and cannot be used.

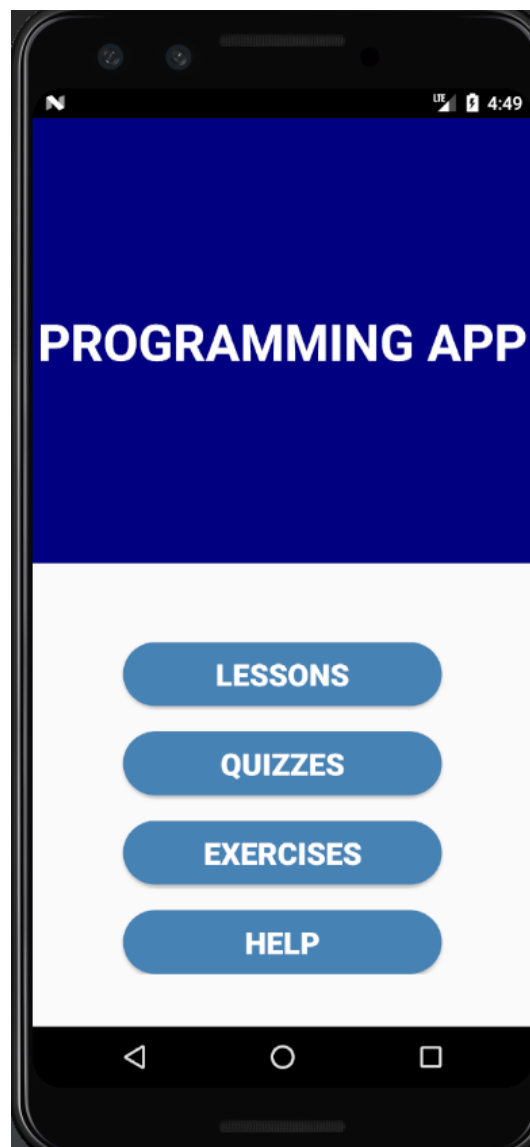


Figure 9 - Running App

How to use the lessons functionality

- 1) Firstly, go to the main page which will look like figure 9. Then click on the 'Lessons' button. That will take you the Lesson page.



Figure 10 - Lessons Button

- 2) The lessons page will contain three buttons for the three programming languages 'SQL', 'Java' and 'HTML'. Select one of these languages to start a lesson on or you can click on the back button to go back to home page.

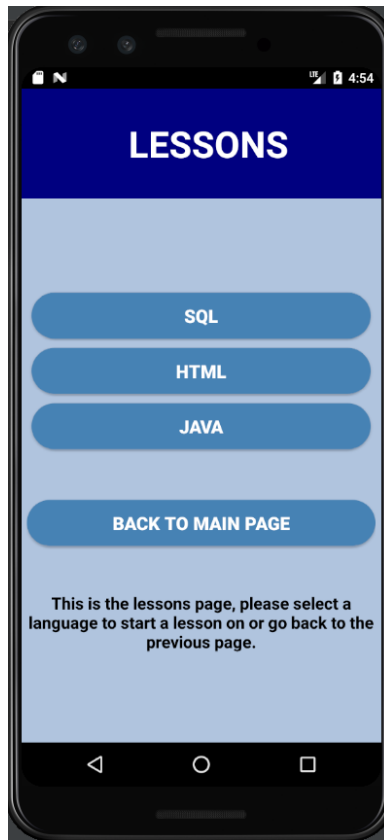


Figure 11 - Lessons Page

- 3) Each language has multiple pages which include text, images and videos which will explain core concepts and functions of the chosen language. To play the videos, simply click on the video and press the play button



Figure 12 – Video Lessons

How to use the Quiz functionality

- 1) Firstly, go to the main page which will look like figure 9. Then click on the 'Quizzes' button. That will take you the Quiz page.



Figure 13 - Quizzes Button

- 2) The quiz page contains a drop-down menu that will allow you to choose a language to do the quiz on. After you select a language click on the 'START QUIZ' button to start the quiz.

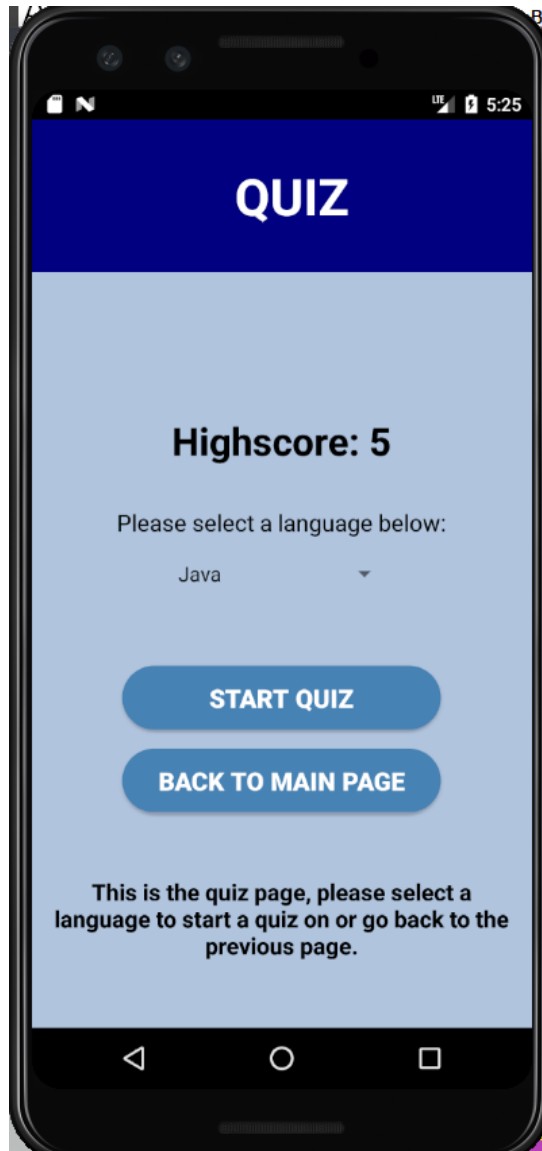


Figure 14 - Quiz page

- 3) Ten question about the chosen language will appear. Each question has three options. You must choose an option and click on the 'CONFIRM YOUR ANSWER' button.

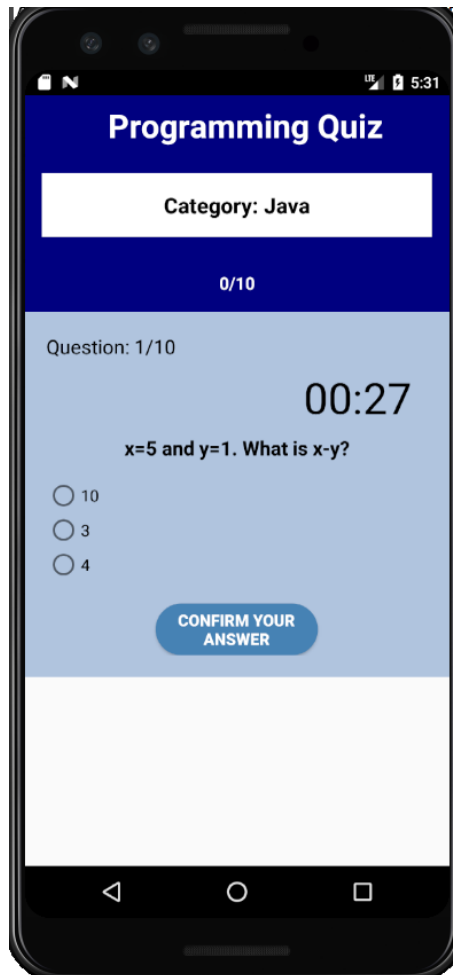


Figure 15 - Quiz Question

- 4) After you confirm your answer, the product will indicate if the answer is correct or not. If the answer was correct it will add a point. After the ten questions have been answered, the product will show the number of correct answers in the high score.

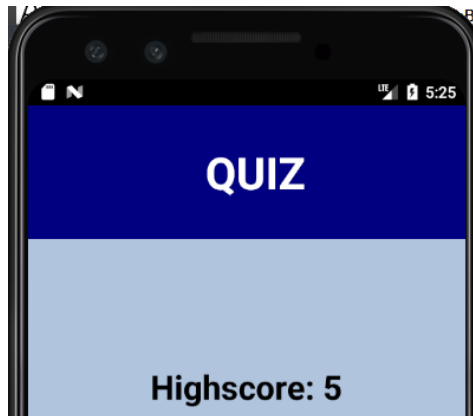


Figure 16 – High score

How to use the exercise functionality

- 1) Firstly, go to the main page which will look like figure 9. Then click on the 'Exercises' button. That will take you the Exercises page.



Figure 17 - Exercises button

- 2) In the Exercises page, there will be three buttons for the three programming languages. Select one language to do an exercise on.

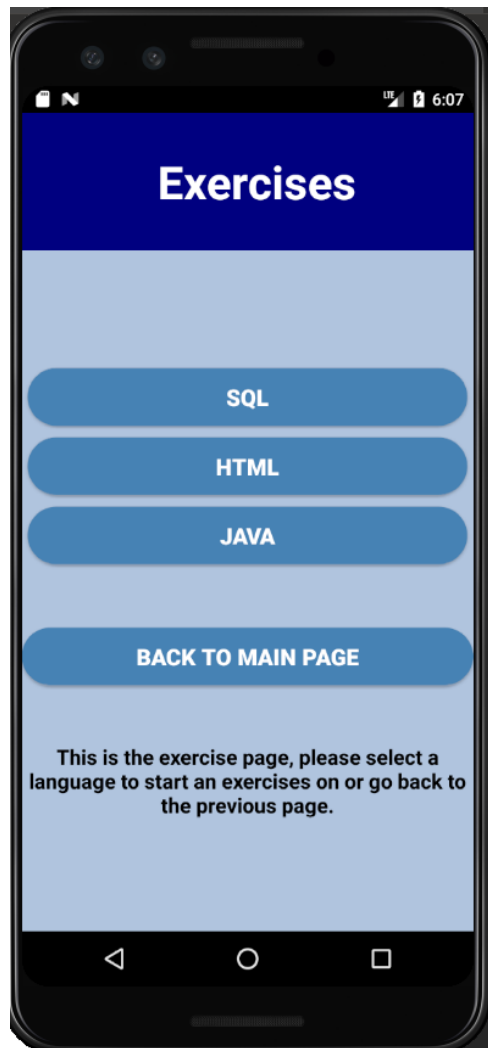


Figure 18 - Exercises Page

- 3) The exercise page will contain several programming exercises that the user must enter solutions for. The user will have to enter code to fix the problem and complete tasks that are asked of them.

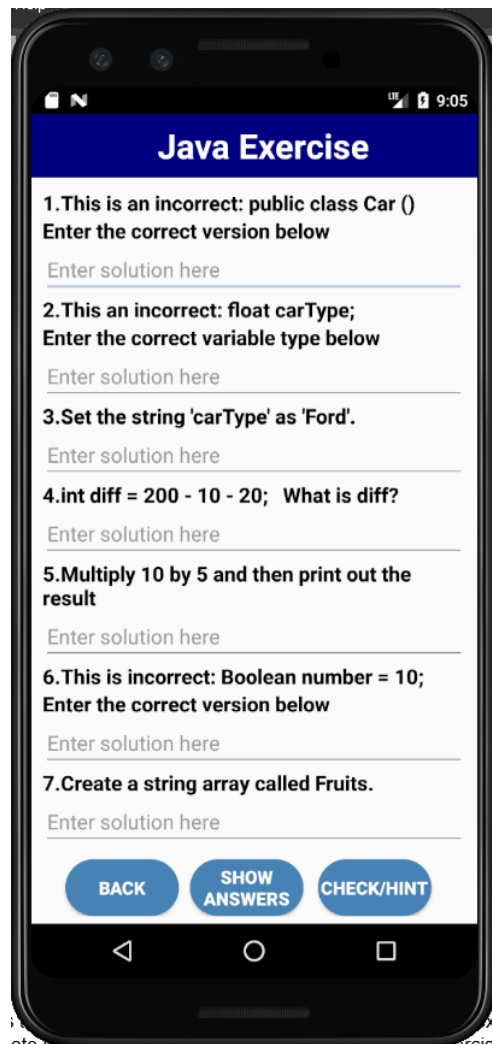


Figure 19 - Java Exercise

- 4) After the user enters the solution and presses the 'Check/Hint' button, the text will change to green or red to indicate if the answer is correct or not. If the user gets exercise wrong, a hint will appear that will help the user. A toast message will also appear stating that the solution was incorrect and will encourage the user to try again.

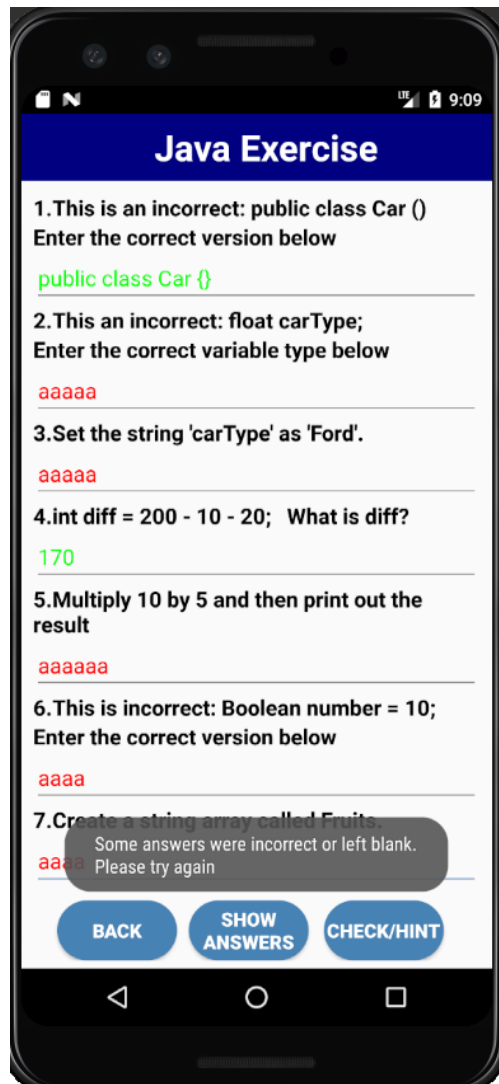


Figure 20 - Results

- 5) If the user just wants to view all the correct answers instead of completing the exercises, they can just press the 'SHOW ANSWERS' button. All the correct answers will automatically appear in the text boxes.

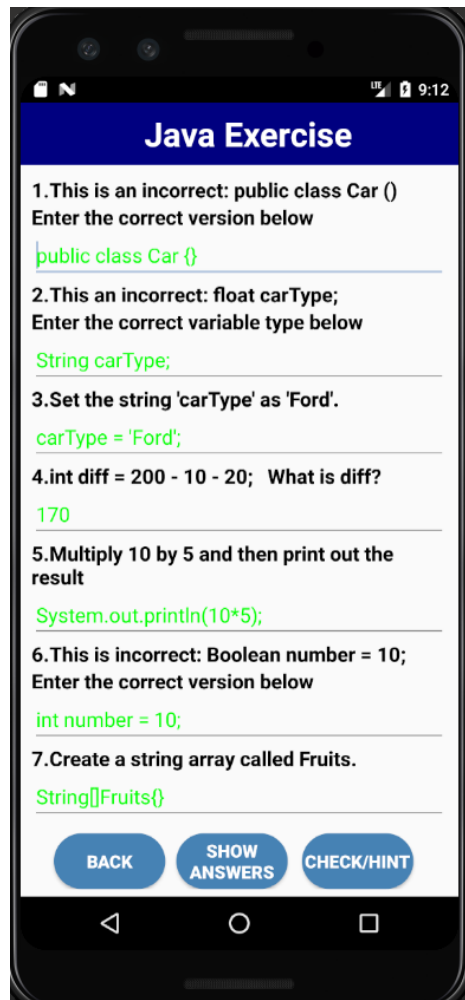


Figure 21 - Show all answers

- 6) If the user wants to view all the hints , they can click the 'CHECK/HINT' button. Hints at the correct solutions will appear. This will help the user enter and submit the correct solutions for the exercises.

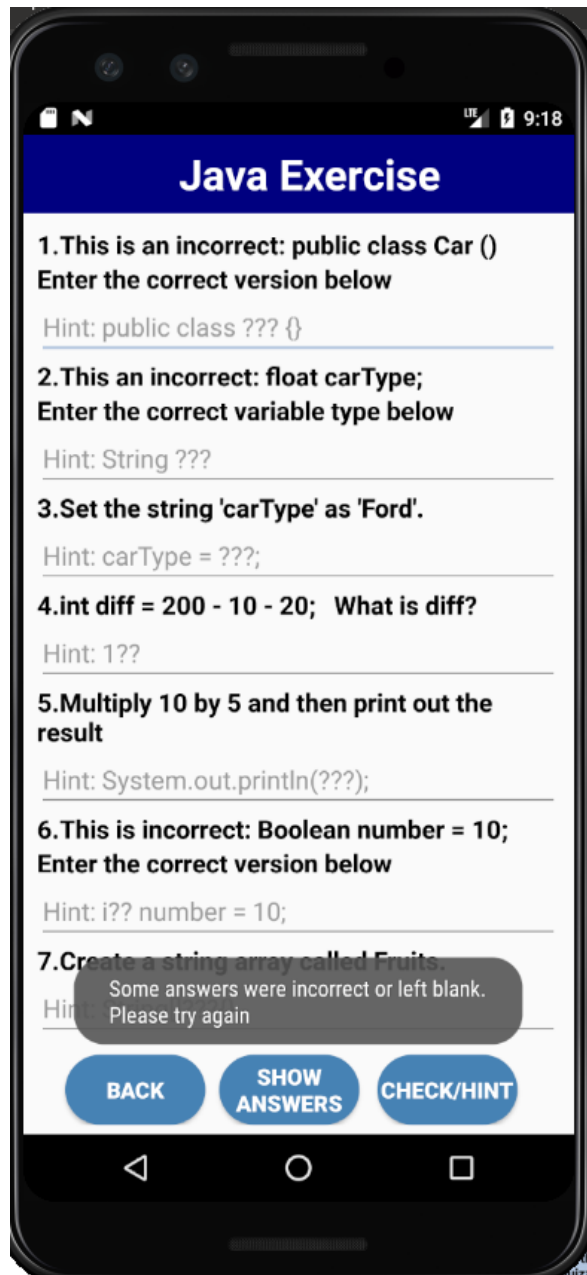


Figure 22 - Hints

How to use the help functionality

- 1) Firstly, go to the main page which will look like figure 9. Then click on the 'Help' button. That will take you the Help page.



Figure 23 - Help button

- 2) The help page will appear and will contain text explaining how to use the app

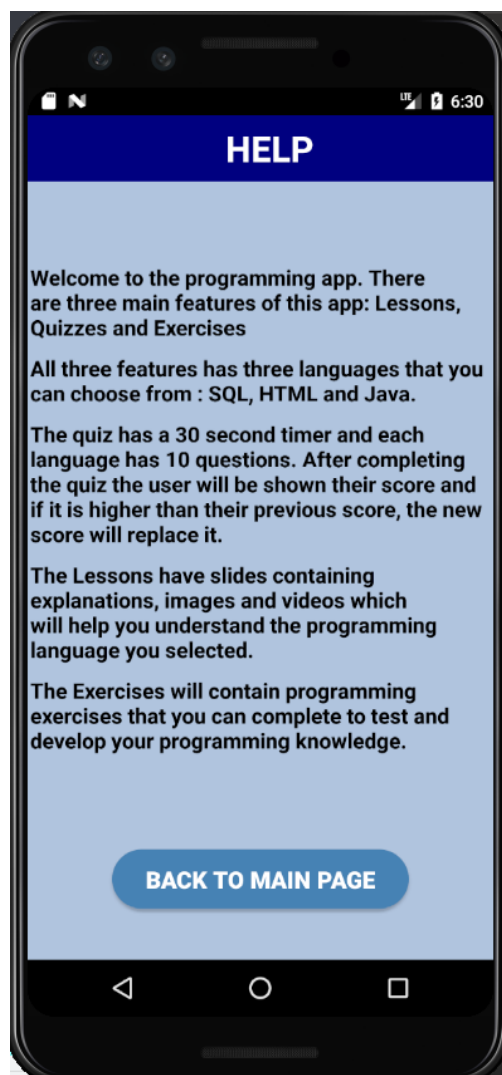


Figure 24 - Help page