Title: QUIZ APP: Code Crackers Challenge.

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Course Code: INFT 3101

Institution Name: Durham College

Date: 30/09/2024

Logo:

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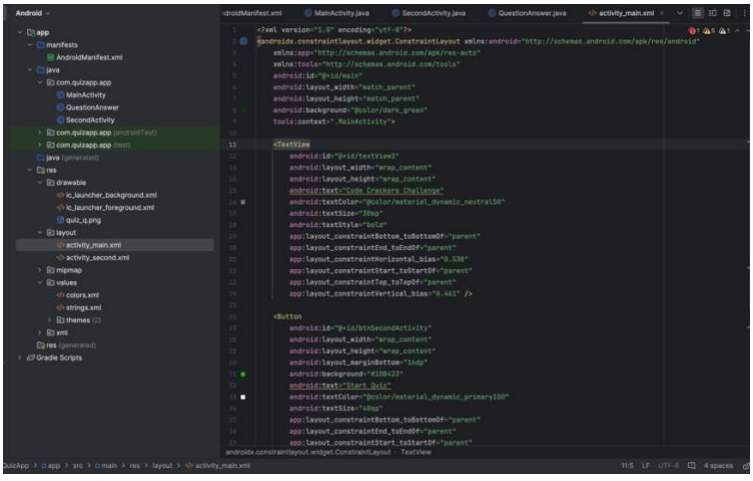
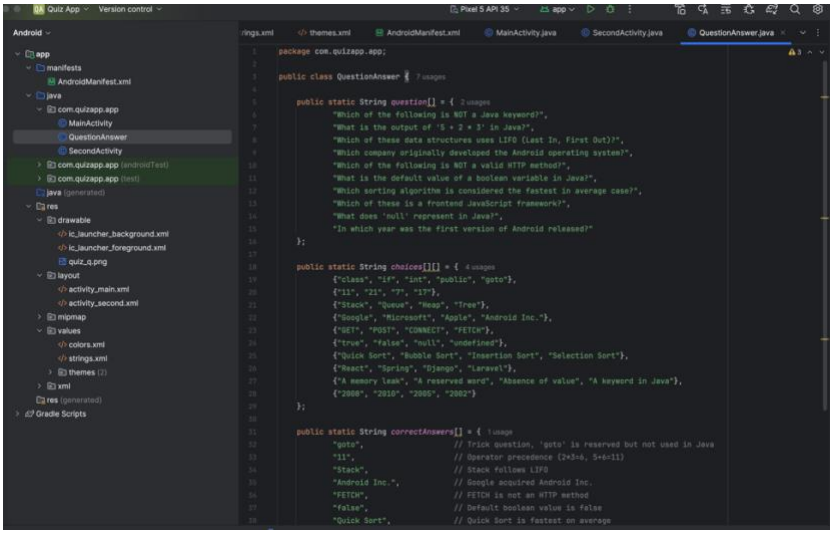
App Code

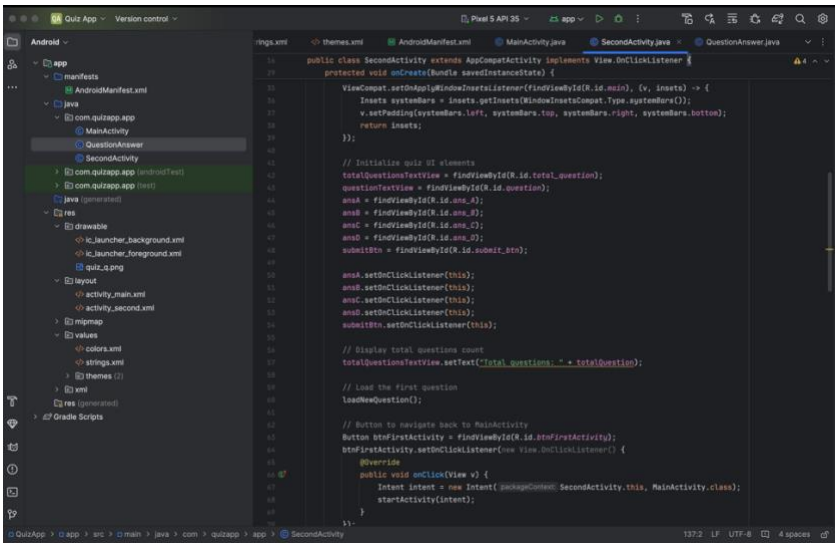
```
    <TextView
        android:layout_marginEnd="232dp"
        android:text="INFT3101 - Android Studio: App Development"
        android:textSize="20dp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.282"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="177dp"
        android:layout_height="63dp"
        android:layout_marginStart="121dp"
        android:layout_marginTop="24dp"
        android:layout_marginEnd="232dp"
        android:text="Favorite Quote: The only way to create the future is to make it."
        android:textSize="15dp"
        android:textStyle="italic"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.453"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />

</androidx.constraintlayout.widget.ConstraintLayout>
```



4



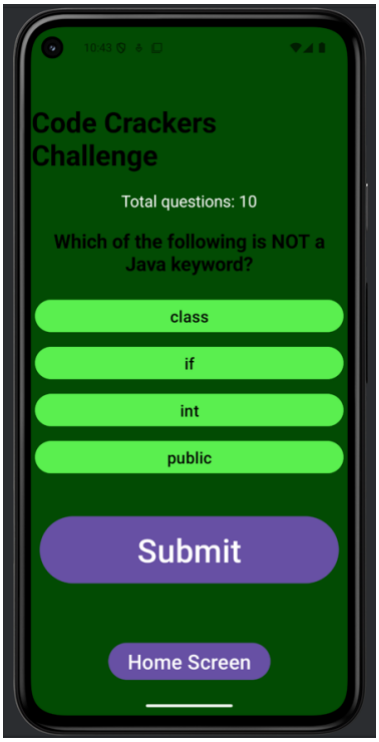
```
package com.quizapp.app;

public class QuestionAnswer {

    public static String question[] = {
            "Which of the following is NOT a Java keyword?",
            "What is the output of '5 + 2 + 3' in Java?",
            "Which of these data structures uses LIFO (Last In, First Out)?",
            "Which company originally developed the Android operating system?",
            "Which of the following is NOT a valid HTTP method?",
            "What is the default value of a boolean variable in Java?",
            "Which sorting algorithm is considered the fastest in average case?",
            "Which of these is a frontend JavaScript framework?",
            "What does 'null' represent in Java?",
            "In which year was the first version of Android released?"
    };

    public static String choices[][] = {
            {"class", "if", "int", "public", "goto"},
            {"11", "21", "7", "17"},
            {"Stack", "Queue", "Heap", "Tree"},
            {"Google", "Microsoft", "Apple", "Android Inc."},
            {"GET", "POST", "CONNECT", "FETCH"},
            {"true", "false", "null", "undefined"},
            {"Quick Sort", "Bubble Sort", "Insertion Sort", "Selection Sort"},
            {"React", "Spring", "Django", "Laravel"},
            {"A memory leak", "A reserved word", "Absence of value", "A keyword in Java"},
            {"2008", "2010", "2005", "2002"}
    };

    public static String correctAnswers[] = {
            "goto",                 // Trick question, 'goto' is reserved but not used in Java
            "11",                   // Operator precedence (2+3=5, 5+6=11)
            "Stack",                // Stack follows LIFO
            "Android Inc.",         // Google acquired Android Inc.
            "FETCH",                // FETCH is not an HTTP method
            "false",                // Default boolean value is false
            "Quick Sort",           // Quick Sort is fastest on average
```

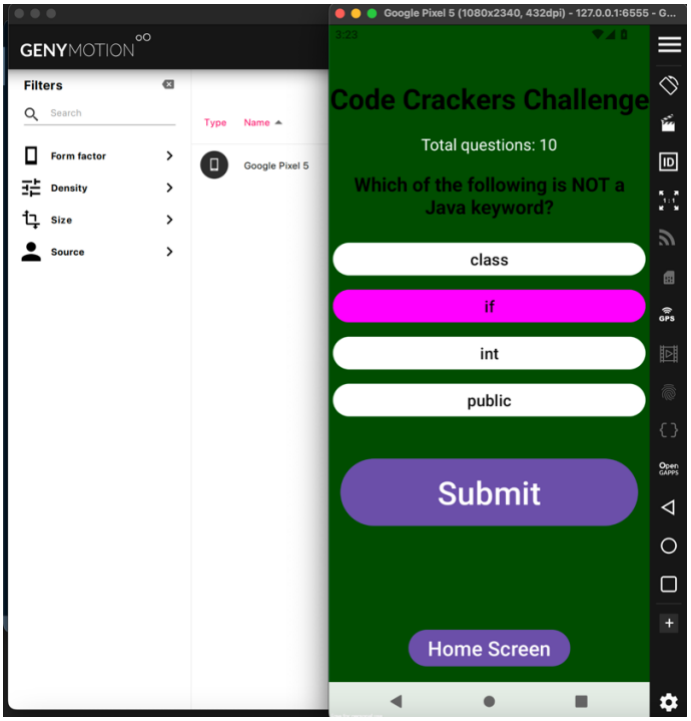


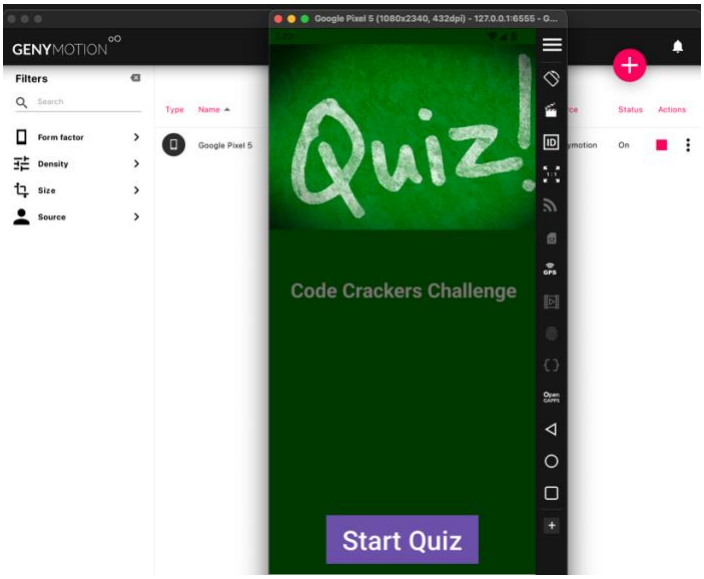
```
public class SecondActivity extends AppCompatActivity implements View.OnClickListener {
    protected void onCreate(Bundle savedInstanceState) {
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });

        // Initialize quiz UI elements
        totalQuestionsTextView = findViewById(R.id.total_question);
        questionTextView = findViewById(R.id.question);
        ansA = findViewById(R.id.ans_A);
        ansB = findViewById(R.id.ans_B);
        ansC = findViewById(R.id.ans_C);
        ansD = findViewById(R.id.ans_D);
        submitBtn = findViewById(R.id.submit_btn);

        ansA.setOnClickListener(this);
        ansB.setOnClickListener(this);
        ansC.setOnClickListener(this);
        ansD.setOnClickListener(this);
        submitBtn.setOnClickListener(this);

        // Display total questions count
        totalQuestionsTextView.setText("Total questions: " + totalQuestion);

        // Load the first question
        loadNewQuestion();

        // Button to navigate back to MainActivity
        Button btnFirstActivity = findViewById(R.id.btnFirstActivity);
        btnFirstActivity.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent( packageContext: SecondActivity.this, MainActivity.class);
                startActivity(intent);
            }
        });
```

2024-09-30

Screenshots of the app running in both the Android Studio *page* **AND** external emulator Genymotion.




GENYMOTION
Filters
Search
Form factor
Density
Size
Source
Type
Name
Google Pixel 5
Google Pixel 5 (1080x2340, 432dpi) - 127.0.0.1:6555 - G...
Code Crackers Challenge
Total questions: 10
Which of the following is NOT a Java keyword?
class
if
int
public
Submit
Home Screen


GENYMOTION
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Google Pixel 5 (1080x2340, 432dpi) - 127.0.0.1:6555 - G...
Quiz!
Code Crackers Challenge
Start Quiz

Reflection.

Working on this assignment in Android Studio was a valuable learning experience. At first, I found the platform overwhelming due to its complexity and wide range of tools. However, as I progressed through the project, I became more comfortable navigating the interface and managing the various components, which helped me build a stronger understanding of Android development.

One of the main challenges was understanding the project structure. It took some time to get used to how the Manifest file, Java/Kotlin code, and XML layout files all interact. As I became more familiar with this modular organization, the development process became smoother and more efficient.

Another challenge was designing the user interface with `ConstraintLayout`. Creating a responsive layout that worked well across different devices involved a lot of trial and error. Testing layouts on both emulators and physical devices helped me better understand how to use constraints effectively.

Debugging was also difficult at first. Logcat’s error messages were overwhelming, but I learned how to filter logs to identify problems, such as `NullPointerExceptions` and missing resources. This became a key skill in managing and resolving issues.

The activity lifecycle was one of the more complex concepts I tackled. Learning to manage state changes between activities was challenging but crucial for ensuring smooth navigation and handling user interactions properly.