 # Lesson Plan: Build a Mood2Emoji App (Intro to Text Classification)

****Topic:**** Build a Mood2Emoji app (intro to text classification)

****Duration:**** 60 minutes

****Age Group:**** 12–16 years

****Goals:****

- Introduce students to basic programming concepts and web app development.

- Teach the fundamentals of text classification and sentiment analysis.

- Encourage creative problem-solving and ethical thinking in AI.

Topics Introduced

- Programming basics: Variables, functions, conditionals, loops.

- Web development: Using Streamlit for simple UIs.

- Natural Language Processing (NLP): Sentiment analysis with TextBlob.

- Safety and ethics: Filtering inappropriate content.

- Problem-solving: Debugging and iterating on code.

Topics in Detail

1. ****Programming Basics:**** Explain variables (e.g., storing user input), functions (e.g., `get_mood_emoji`), and conditionals (e.g., if polarity > 0.1).

2. ****Web Apps with Streamlit:**** Show how to create input fields, buttons, and display outputs.

3. ****Sentiment Analysis:**** Discuss how TextBlob calculates polarity (positive/negative scores) from text.

4. ****Safety Features:**** Talk about why filtering bad words is important and how to implement simple checks.

5. ****Ethics in AI:**** Discuss biases in sentiment analysis and the need for kid-safe tools.

Activity Explanation

- ****Introduction (10 min):**** Brainstorm emotions and how text conveys mood. Show examples.

- ****Demo (10 min):**** Run the app, input sentences, and explain outputs.

- ****Group Coding (25 min):**** Students modify the app (e.g., add new emojis or adjust thresholds).

- ****Testing and Sharing (10 min):**** Test changes, discuss what worked/didn't.

- **Reflection (5 min):** What did you learn? How could this be improved?

Learning Outcomes

- Students will build and customize a simple sentiment analysis app.
- Understand basic NLP concepts and their applications.
- Recognize the importance of safety in digital tools.
- Gain confidence in coding and debugging.