

## Tracing Shadows :

```
import 'package:flutter/material.dart';
import 'package:flutter_tts/flutter_tts.dart';
```

```
void main() {
  runApp(TextToBrailleApp());
}
```

```
class TextToBrailleApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'Text to Braille',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: BrailleConverterScreen(),
    );
  }
}
```

```
class BrailleConverterScreen extends StatefulWidget {
  @override
  _BrailleConverterScreenState createState() => _BrailleConverterScreenState();
}
```

```
class _BrailleConverterScreenState extends State<BrailleConverterScreen> {
  TextEditingController textController = TextEditingController();
  String brailleOutput = "";
  FlutterTts flutterTts = FlutterTts();
```

// Basic Text-to-Braille conversion

```
String convertToBraille(String input) {
  Map<String, String> brailleMap = {
    "a": "⠁", "b": "⠃", "c": "⠉", "d": "⠙", "e": "⠑",
    "f": "⠖", "g": "⠗", "h": "⠈", "i": "⠊", "j": "⠋",
    "k": "⠓", "l": "⠌", "m": "⠍", "n": "⠎", "o": "⠕",
    "p": "⠏", "q": "⠑", "r": "⠞", "s": "⠚", "t": "⠟",
    "u": "⠥", "v": "⠦", "w": "⠡", "x": "⠬", "y": "⠽", "z": "⠵",
    " ": "⠠", ".": "⠠⠨", ",": "⠠⠧", "?": "⠠⠦", "!": "⠠⠥"
  };
};
```

```

    return input.toLowerCase().split("").map((char) => brailleMap[char] ?? char).join("");
  }

// Convert text to Braille & Speak
void convertAndSpeak() {
  setState(() {
    brailleOutput = convertToBraille(textController.text);
  });
  flutterTts.speak(textController.text); // Speak input text
}

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: Text("Text to Braille Converter")),
    body: Padding(
      padding: EdgeInsets.all(20),
      child: Column(
        children: [
          TextField(
            controller: textController,
            decoration: InputDecoration(labelText: "Enter Text"),
          ),
          SizedBox(height: 20),
          ElevatedButton(
            onPressed: convertAndSpeak,
            child: Text("Convert to Braille & Speak"),
          ),
          SizedBox(height: 20),
          Text(
            "Braille Output:",
            style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
          ),
          SizedBox(height: 10),
          Text(
            brailleOutput,
            style: TextStyle(fontSize: 24, fontWeight: FontWeight.bold),
          ),
        ],
      ),
    ),
  );
}

```