**Untitled-4**

```java
import java.io.*;
import java.util.*;

public class SimpleSearchEngine {
    private static Map<String, List<String>> index = new HashMap<>();

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Simple Search Engine");
        System.out.print("Enter directory path to index: ");
        String directoryPath = scanner.nextLine();
        indexDirectory(directoryPath);

        while (true) {
            System.out.print("Enter search keyword (or 'exit' to quit): ");
            String keyword = scanner.nextLine();
            if (keyword.equalsIgnoreCase("exit")) {
                break;
            }
            search(keyword);
        }

        scanner.close();
    }

    private static void indexDirectory(String directoryPath) {
        File directory = new File(directoryPath);
        if (!directory.isDirectory()) {
            System.out.println("Invalid directory path.");
            return;
        }

        File[] files = directory.listFiles((dir, name) -> name.endsWith(".txt"));
        if (files == null) {
            System.out.println("No text files found in the directory.");
            return;
        }

        for (File file : files) {
            indexFile(file);
        }

        System.out.println("Indexing complete.");
    }

    private static void indexFile(File file) {
        try (BufferedReader reader = new BufferedReader(new FileReader(file))) {
```

```
            String line;
            while ((line = reader.readLine()) != null) {
                String[] words = line.split("\\W+");
                for (String word : words) {
                    if (!word.isEmpty()) {
                        word = word.toLowerCase();
                        index.computeIfAbsent(word, k -> new ArrayList<>
()).add(file.getAbsolutePath());
                    }
                }
            }
        } catch (IOException e) {
            System.out.println("Error reading file: " + file.getName());
        }
    }

    private static void search(String keyword) {
        keyword = keyword.toLowerCase();
        List<String> result = index.get(keyword);
        if (result == null || result.isEmpty()) {
            System.out.println("No results found for keyword: " + keyword);
        } else {
            System.out.println("Files containing '" + keyword + "':");
            for (String filePath : result) {
                System.out.println(filePath);
            }
        }
    }
}

```