PROJECT REPORT

JAVA PROGRAMMING FUNDAMENTALS (EBDS22ET2)

2024-2025 (EVEN SEMESTER)

DEPARTMENT OF B.TECH DS & AI (E&T)

COURSE   :   B-TECH CSE-DS (AI)
YEAR/SEM/SEC   : I YEAR / II SEMESTER / SECTION AC1
 PROJECT TITLE   :   SIMPLE CHATBOT (TEXT-BASED)

BONAFIDE CERTIFICATE

JAVA PROGRAMMING FUNDAMENTALS
(EBDS22ET1)

DEPARTMENT OF DS &AI(E&T)

Certified that this project report "Simple Chatbot (Text-based)" is the confirmed work of **NAME : A.R.Shwetha(AC1-14) and S.Sriranganayagi**, I-year B-Tech CSE-DS(AI) in **JAVA PROGRAMMING FUNDAMENTALS (EBDS22ET2)** who carried out the project work under the supervision.

SIGNATURE OF LAB-IN-CHARGE   SIGNATURE OF HEAD OF DEPT

SUBMITTED FOR THE PRACTICAL EXAMINATION HELD ON_____

INTERNAL EXAMINER   EXTERNAL EXAMINER

Abstract

This project focuses on developing a text-based chatbot using Java. The chatbot interacts with users through simple text input and provides appropriate responses using conditional logic and string comparisons. This project demonstrates the use of Java basics like loops, conditionals, string methods, and console input/output. It helps simulate real-time user interaction in a minimalistic way.

Introduction of java:

Java is a high-level, object-oriented programming language known for its platform independence, robustness, and security features. It is widely used in software development for creating cross-platform applications. Java provides a rich set of APIs and libraries that simplify development and encourage good programming practices.

PROJECT TITLE
SIMPLE CHATBOT (TEXT-BASED)

Aim:

- To develop a basic rule-based chatbot using Java that interacts with the user and provides responses based on predefined patterns.

Algorithm:

1. Start the program.
2. Display a welcome message.
3. Accept input from the user.
4. Match input with predefined keywords.
5. Respond accordingly.
6. If no match, show default message.
7. Repeat until 'bye' is entered.
8. End the program.

Program:

```java
import java.util.Scanner;

public class SimpleChatBot {
    public static String getResponse(String input) {
        input = input.toLowerCase();

        if (input.contains("hi") || input.contains("hello")) {
            return "Hello! How can I help you today?";
        } else if (input.contains("how are you")) {
            return "I'm just a bot, but I'm doing great!";
        } else if (input.contains("your name")) {
            return "I'm a simple chatbot created using Java.";
        }
        else if (input.contains("bye")) {
            return "Goodbye! Have a great day!";
        } else {
            return "I'm sorry, I didn't understand that.";
        }
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String input;
        System.out.println("ChatBot: Hi! I am your assistant. Type 'bye' to exit.");

        while (true) {
            System.out.print("You: ");
            input = scanner.nextLine();

            if (input.equalsIgnoreCase("bye")) {
                System.out.println("ChatBot: " + getResponse(input));
                break;
            }
            String response = getResponse(input);
            System.out.println("ChatBot: " + response);
        }
        scanner.close();
    }
```

Output

- ChatBot: Hi! I am your assistant. Type 'bye' to exit.
- You: Hello
- ChatBot: Hello! How can I help you today?
- You: Your name?
- ChatBot: I'm a simple chatbot created using Java.
- You: Bye
- ChatBot: Goodbye! Have a great day!

Result

- The chatbot was successfully developed using Java.
- It responds to user input based on simple pattern matching.
- Handles basic conversation with predefined responses.