FAQ Chatbot Project Report

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Date: June 2025

Project Description

Project Title: FAQ Chatbot in C

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Description:

This project is a simple chatbot written in C. It matches user input against a predefined set of questions and provides answers. It also handles unknown queries and runs in a continuous loop until the user types "exit".

Features:

- Answers predefined FAQs.

- Case-insensitive input matching.

- Runs until user exits.

- Safe input handling using fgets.

Instructions to Compile:

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1. Open terminal or online compiler.

2. Compile the file:

   gcc chatbot.c -o chatbot

3. Run the executable:

   ./chatbot

Sample Questions:

- what is ai

- what is machine learning

- what is python

Source Code (chatbot.c)

```c
#include <stdio.h>

#include <string.h>

#include <ctype.h>


// Predefined FAQs
const char *questions[] = {

    "what is ai",

    "what is machine learning",

    "what is python"

};


const char *answers[] = {

    "AI stands for Artificial Intelligence.",

    "Machine Learning is a subset of AI that learns from data.",
```

```c
    "Python is a programming language used in AI."

};


// Function to convert a string to lowercase

void toLowerCase(char *str) {

    for (int i = 0; str[i]; i++) {

        str[i] = tolower(str[i]);

    }

}


// Chatbot function to match questions and provide answers

void chatbot(char input[]) {

    int found = 0;

    for (int i = 0; i < 3; i++) {

        if (strcmp(input, questions[i]) == 0) {

            printf("Bot: %s\n", answers[i]);

            found = 1;

            break;

        }

    }

    if (!found) {

        printf("Bot: Sorry, I don't understand that question.\n");

    }

}


// Main function

int main() {
```

```c
    char query[100];

    printf("Welcome to the FAQ Chatbot!\n");

    printf("Type your question (e.g., what is ai). Type 'exit' to quit.\n\n");

    while (1) {

        printf("You: ");

        fgets(query, sizeof(query), stdin);

        query[strcspn(query, "\n")] = 0;

        toLowerCase(query);

        if (strcmp(query, "exit") == 0) {

            printf("Bot: Goodbye!\n");

            break;

        }

        chatbot(query);

    }

    return 0;

}
```

Sample Output

Welcome to the FAQ Chatbot!

Type your question (e.g., what is ai). Type 'exit' to quit.

You: What is AI

Bot: AI stands for Artificial Intelligence.

You: what is python

Bot: Python is a programming language used in AI.

You: what is java

Bot: Sorry, I don't understand that question.

You: exit

Bot: Goodbye!