

FAQ Chatbot Project Report

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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:

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)

```
#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.",
    "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() {
    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);

// Remove newline character
query[strcspn(query, "\n")] = 0;

// Convert to lowercase for case-insensitive comparison
toLowerCase(query);

// Exit condition
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!