

S.No: 1	Exp. Name: <i>Project Module</i>	Date: 2024-06-13
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Aim:

Project Module

Source Code:

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hello.c
```

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#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <ctype.h>

#define MAX_MESSAGES 100
#define MAX_MESSAGE_LENGTH 1000
#define SPAM_THRESHOLD 0.7

// Structure to represent a message
typedef struct {
    char content[MAX_MESSAGE_LENGTH];
    int is_spam; // 1 if spam, 0 if not
} Message;

// Function to preprocess a message (e.g., convert to lowercase, remove
punctuation)
void preprocess_message(char* message) {
    int i = 0, j = 0;
    while (message[i]) {
        if (isalpha(message[i])) {
            message[j++] = tolower(message[i]);
        }
        i++;
    }
    message[j] = '\0';
}

// Function to check if a message contains spam keywords
int contains_spam_keywords(char* message) {
    // Example: Check for the presence of the word "free"
    if (strstr(message, "free") != NULL) {
        return 1; // Spam detected
    }
    return 0; // No spam detected
}

// Function to detect spam in a given message
int detect_spam(char* message) {
    char processed_message[MAX_MESSAGE_LENGTH];
    strcpy(processed_message, message);
    preprocess_message(processed_message);
    if (contains_spam_keywords(processed_message)) {
        return 1; // Spam detected
    }
    return 0; // No spam detected
}

// Function to analyze messages and classify them as spam or not

```

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// Simulated input: Read messages from a file or user input
printf("Enter the number of messages: ");
scanf("%d", &num_messages);
getchar(); // Clear newline from buffer

printf("Enter the messages:\n");
for (int i = 0; i < num_messages; i++) {
    fgets(messages[i].content, MAX_MESSAGE_LENGTH, stdin);
    messages[i].content[strcspn(messages[i].content, "\n")] = '\0'; //
Remove newline character
}

// Analyze messages
analyze_messages(messages, num_messages);

// Display results
printf("\nSpam Detection Results:\n");
for (int i = 0; i < num_messages; i++) {
    printf("Message %d: %s\n", i+1, messages[i].content);
    if (messages[i].is_spam) {
        printf("Spam detected!\n");
    } else {
        printf("Not spam.\n");
    }
    printf("\n");
}

return 0;
}

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Hello World