9. All languages have Grammar. When people frame a sentence we usually say whether the sentence is framed as per the rules of the Grammar or Not. Similarly use the same ideology , implement to check whether the given input string is satisfying the grammar or not .

Program:

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#include <stdbool.h>

const char\* subjects[] = {"I", "You", "He", "She", "They"};

const char\* verbs[] = {"like", "love", "play", "watch"};

const char\* objects[] = {"cricket", "football", "movies", "music"};

bool isValid(const char\* word, const char\* list[], int size) {

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

if (strcmp(word, list[i]) == 0) {

return true;

}

}

return false;

}

bool checkGrammar(char\* sentence) {

char\* words[3];

char\* token = strtok(sentence, " ");

int count = 0;

while (token != NULL && count < 3) {

words[count++] = token;

token = strtok(NULL, " ");

}

if (count != 3) {

return false;

}

return isValid(words[0], subjects, 5) && isValid(words[1], verbs, 4) && isValid(words[2], objects, 4);

}

int main() {

char sentence[100];

printf("Enter a sentence: ");

fgets(sentence, sizeof(sentence), stdin);

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

if (checkGrammar(sentence)) {

printf("Valid sentence as per the grammar!\n");

} else {

printf("Invalid sentence! Please follow the grammar rules.\n");

}

return 0;

}

Output:

