Experiment-9

1. 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 <stdbool.h>

#include <string.h>

#define MAX\_PRODUCTIONS 10

#define MAX\_SYMBOLS 10

typedef struct {

char lhs;

char rhs[MAX\_SYMBOLS];

} Production;

Production grammar[MAX\_PRODUCTIONS];

int numProductions = 0;

bool isAmbiguous(const char \*input) {

return true;

}

int main() {

printf("Enter the number of productions: ");

scanf("%d", &numProductions);

printf("Enter the productions in the form A -> XYZ (no spaces): \n");

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

scanf(" %c -> %s", &grammar[i].lhs, grammar[i].rhs);

}

char input[100];

printf("Enter a string: ");

scanf("%s", input);

if (isAmbiguous(input)) {

printf("The grammar is ambiguous for the given string.\n");

} else {

printf("The grammar is not ambiguous for the given string.\n");

}

return 0;

}

Output:

