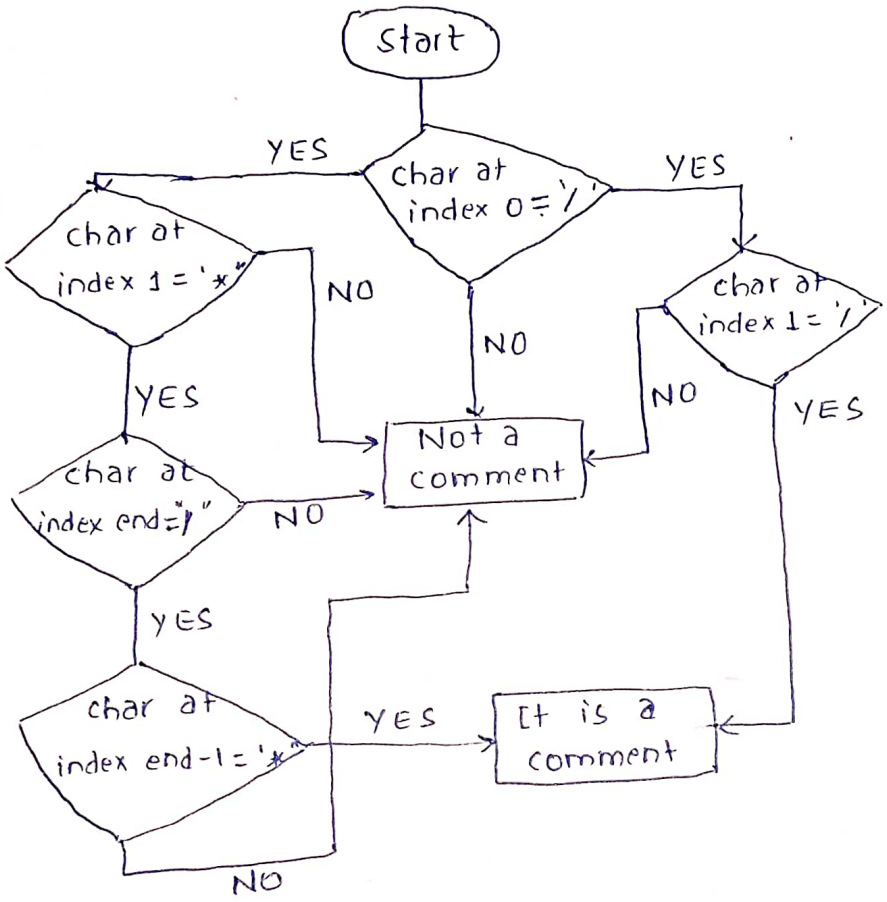
Objective :- To Write a C program to identify whether a given line is a comment or not

Resource :- Online GDB, gcc / g++

Program logic :-



Procedure :-

- check if at the first index (ie→ index 0) the value is '/' then follow below steps else print "Not a comment"
- if Com[0] == '/' :
  - if com[1] == '/' then print "It is a comment"
  - if com[1] == '*', then traverse the string and if any adjacent pair of '*' & '/' is found then print "It is a comment".
- otherwise, print "It is not a comment"

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Section : A

Year : 3rd

- Program →

```
# include <stdio.h>
# include <conio.h>
# include <string.h>
void main(){
        int t;
        scanf("%d",&t);
        while(t--){
            char com[50];
             int i=2, flag=0;
            Printf("\n Enter Comment : ");
            Scanf("%s",com);
            if(com[0]=='/'){
                  if(com[1]=='/')
                    Printf("\n It is a comment");
                  else if(com[1]=='*'){
            for(i=2; i<=50; i++){
                if(com[i]=='*' && com[i+1]=='/'){
                Printf("\n It is a comment");
                flag=1;
                  break;
                  }
                else{
                    continue;
                  }
        if(flag==0){
                    Printf("\n It is not a comment");
                  }
        else{printf("\n It is not a comment");
                  }
        else{printf("\n It is not a comment");
                  }
            }
```

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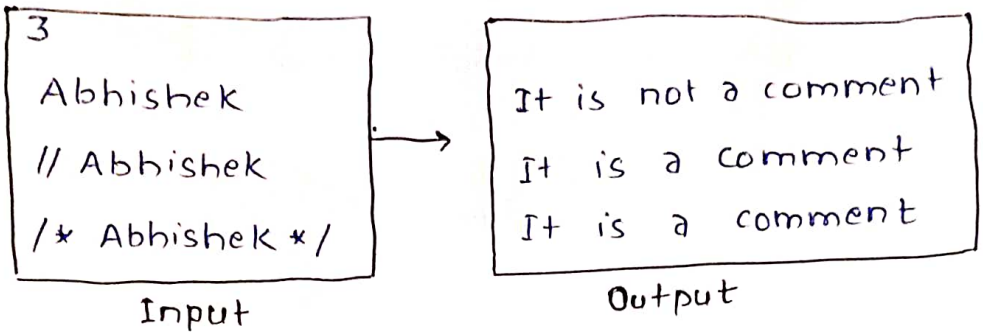
Output :



Discussion -

As our task was to check whether a line is a comment or not. We know that there are two type of comments in a c program -

(i) Single line comment - Comments preceded by a double slash ('//').

(ii) Multi-line comment - comments starting with ('/*') and ending with ('*/')

after implementing the condition with conditional statements I get the desired output.

Objective :- To Write a C program to create a file and write a string into it.

Resource :- Online GDB, gcc / g++

Program logic & procedure :-

In the program, the sentence entered by the user is stored in the s variable. Then, a file named POEM is opened in writing mode. If the file does not exist, it will be created. Finally, the string entered by the user will be written to this file using fputs() function and the file is closed.

Steps →

- creating file pointer to work with files.
- opening file in writing mode.
- Enter the sentence.
- close the file.

Program →

```
# include <stdio.h>
# include <string.h>
 main() {
        FILE *fp;
        char s[80];
        fp = fopen("POEM","w");
        printf(" enter few lines :- \n");
        while (strlen(gets(s))>0){
              fputs(s,fp);
              fputs("\n",fp);
             }
```

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```
    fclose (fp);
    getch();
}
```

Output :

Enter few lines :-

My name is Abhishek Anand
I am a third year student of IEM Kolkata.

Discussion :

Our task was to create a file and write a string into it. For that I have created a variable to store user content. Then I have declared file pointer to hold the reference to our file. Now, open file in w (write) mode. "POEM" is the file name which I have created. Now, Input contents from user to store in file. Write data to file. and then close file to save file data.

Objective :- To write a C program to read from a file.

Resource :- Online GDB, gcc / g++

Program logic & procedure :-

After implementing the code, If the file is available on the desired path. then it will open and display its content.

In this program, the same file will be read which is already created.

Program :-

```
# include <stdio.h>
# include <string.h>
main() {
        FILE *fp;
        char ch[100];
        fp = fopen("POEM","r");
        while ( fgets ( ch, 99, fp) != NULL) {
                printf ("%s", ch);
                }
        fclose(fp);
        getch();
}
```

Output :

My name is Abhishek Anand
I am a third year student of IEM kolkata.

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Discussion :-

Our task was to read a file, which is already created. For that I have firstly created a File pointer to hold reference to our file. Now open the file in r (read) mode. POEM is the file name to read. Now, Read characters from file. print the characters read on console. After successfully reading the file, close the file to release resource.

Objective :- To write a c program to copy content from one file to another.

Resource :- Online GDB, gcc / g++

Program Logic & procedure :-

- Input file path of one source & destination file.
- Open source file in r (read) and destination file in w (write) mode.
- Read character from source file and write it to destination file.
- Repeat step (last) till file has reached end.
- close both Source & destination file.

Program :-

```
# include <stdio.h>
# include <string.h>
# include <stdlib.h>
main() {
        FILE *fp, *ft;
        char ch;
        fp = fopen("ARRAY.C", "r");
        if (fp == NULL) {
                puts("can't open file");
                exit(0);
        fp = fopen("f_array.c", "w");
        while(1) {
                ch = fgetc(fp);
                if (ch == EOF)
                 break;
                else fputc(ch, ft);
                }
```

```
printf("\n copied successfully");
fclose(fp);
fclose(ft);
}
```

Output :

copied successfully.

Discussion :

In this assignment, we had to write a program to copy content from one file to another. For that, we must firstly specify the file to be copy & then the target file. I opened the source file in read mode & destination file in writing mode. After that I read the character from source file and written it to destination file using fputc() After successfully copying the source file to destination file. I closed both the source & destination file.