

B. Siva Shirish-192324016

28. Write a C program for simulation of GREP UNIX command

Aim:

The aim of this C program is to simulate the functionality of the `grep` command in Unix. The program will search for a specified pattern within a given file and print the lines that contain the pattern.

Algorithm:

1. Read the file name and the pattern to search for from the user.
2. Open the file for reading.
3. Read the file line by line.
4. For each line, check if the pattern exists in the line using `strstr`.
5. If the pattern is found, print the line.
6. Close the file.

Procedure:

1. Accept file name and pattern from the user.
2. Open the file using `fopen`.
3. Use `fgets` to read the file line by line.
4. Use `strstr` to check if the pattern is found in each line.
5. Print the lines that match the pattern.
6. Handle errors like file not found.

Code:

```
#include <stdio.h>
```

```
#include <string.h>
```

```
int main() {
```

```
    FILE *file;
```

```
    char line[1000], pattern[100];
```

```
    printf("Enter the filename: ");
```

```
    scanf("%s", pattern);
```

```
printf("Enter the pattern to search for: ");  
  
scanf("%s", pattern);  
  
file = fopen(pattern, "r");  
  
if (file == NULL) {  
    printf("File not found!\n");  
  
    return 1;  
}  
  
while (fgets(line, sizeof(line), file)) {  
    if (strstr(line, pattern)) {  
        printf("%s", line);  
    }  
}  
  
fclose(file);  
  
return 0;  
}
```

Result:

If the file contains the pattern, the matching lines will be printed to the console. If no match is found, nothing will be printed. If the file doesn't exist, an error message will be displayed.

Output:

The screenshot shows the OnlineGDB web interface. On the left is a sidebar with the OnlineGDB logo and navigation links: Welcome, Siva Shirish, Create New Project, My Projects, Classroom (marked as new), Learn Programming, Programming Questions, and Upgrade. The top toolbar contains buttons for file operations (New, Open), execution (Run, Debug, Stop), and other features (Share, Save, Beautify, Download). The main console area shows the execution of a C program named main.c. The program prompts for a filename and a search pattern, but the search fails. The output is as follows:

```
Enter the filename: siva
Enter the pattern to search for: guna
File not found!

...Program finished with exit code 1
Press ENTER to exit console.
```