Ketaki Mahajan

Batch: P1-2 **Roll Number:** 16014022050

Experiment / assignment / tutorial number: 8

Grade: AA / AB / BB / BC / CC / CD /DD

Signature of the Staff In-charge with date

TITLE:
File handling in C

AIM: Write a C program to copy the contents of one text file to another.

Expected OUTCOME of Experiment:
The process of file handling refers to how we store the available data or info in a file with the help of a program. The C language stores all the data available in a program into a file with the help of file handling in C. This data can be fetched/extracted from these files to work again in any program.
Hence, the aim of the experiment is to create a file info.txt containing name and roll number of 5 students and copy this to backup file.

Books/ Journals/ Websites referred:

1. Programming in C, second edition, Pradeep Dey and Manas Ghosh, Oxford University Press.
2. Programming in ANSI C, fifth edition, E Balagurusamy, Tata McGraw Hill.
3. Introduction to programming and problem solving, G. Michael Schneider ,Wiley India edition.

Problem Definition:
Write a C program to –

1. Accept 5 students name and roll number from user.
2. Create a new file having name “info.txt”.
3. Copy student’s information collected in step 1 in a file created in step 2 “info.txt”.
4. Create one more new file having name “backup.txt”.
5. Copy contain of file “info.txt” into “backup.txt”.

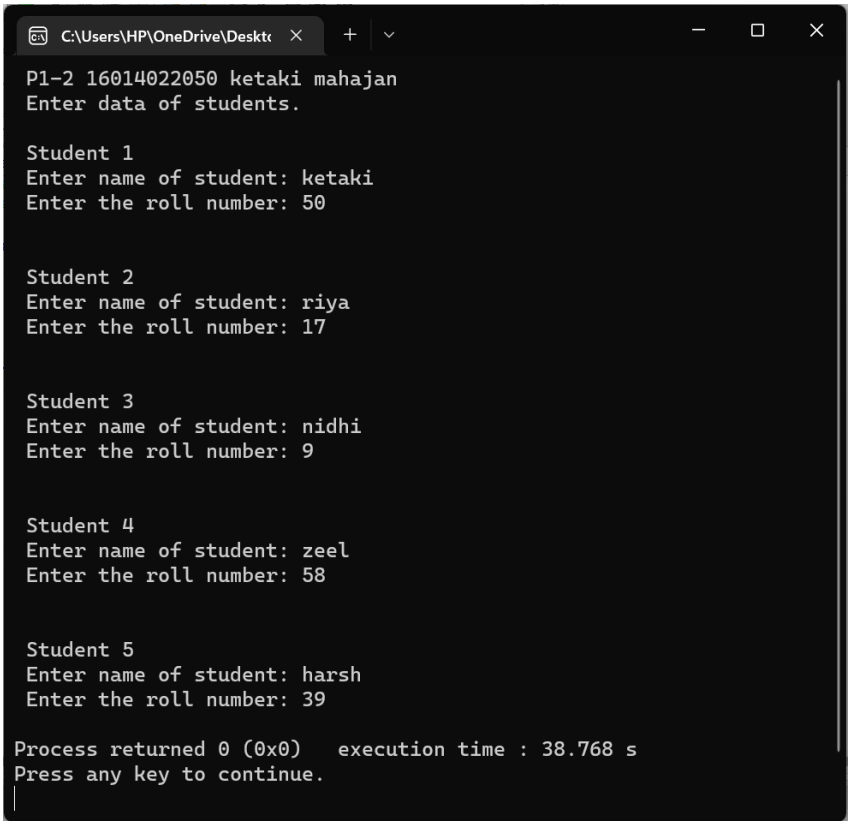
Implementation details:

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

struct student
{
    char name[50];
    int roll_no;
} stu[5];

int main()
{
    int i;
    printf(" P1-2 16014022050 ketaki mahajan");
    printf("\n Enter data of students.");

    for (i=0; i<5; i++)
    {
        printf("\n\n Student %d", (i+1));
        printf("\n Enter name of student: ");
            scanf("%s", stu[i].name);
        printf(" Enter the roll number: ");
            scanf("%d", &stu[i].roll_no);
    }

    // creating a new file "info.txt" only if it does not already exist
    FILE *file1 = fopen("info.txt", "r");
    if (file1 != NULL)
    {
        printf("\n info.txt file already exists!\n");
        fclose(file1);
    }

    else
    {
        file1 = fopen("info.txt", "w");
        if (file1 == NULL)
        {
            printf("\n Error opening info.txt file!\n");
            exit(1);
        }

        // copying students information collected into the file "info.txt"
        for (i=0; i<5; i++)
        {
            fprintf(file1, "Name: %s\nRoll number: %d\n", stu[i].name, stu[i].roll_no);
        }
```

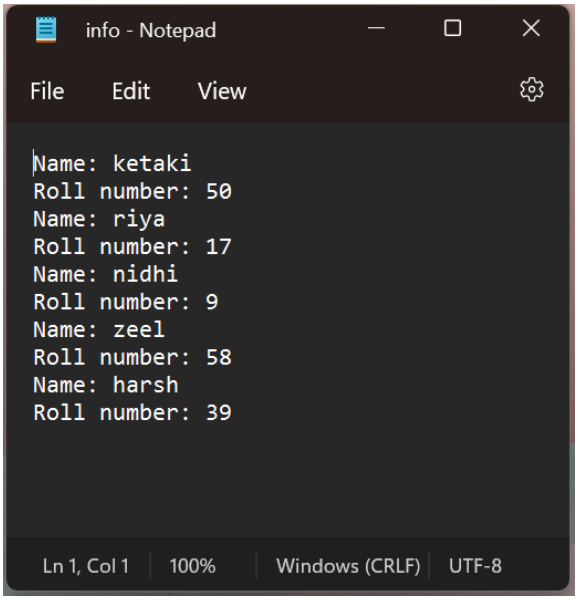
```
    fclose(file1);
  }

  // creating one more new file "backup.txt" only if it does not already exist
  FILE *file2 = fopen("backup.txt", "r");
  if (file2 != NULL)
  {
    printf("\n backup.txt file already exists!\n");
    fclose(file2);
  }

  else
  {
    file2 = fopen("backup.txt", "w");
    if (file2 == NULL)
    {
      printf("\n Error opening backup.txt file!\n");
      exit(1);
    }

    // copying contents of "info.txt" into "backup.txt"
    FILE *file1_copy = fopen("info.txt", "r");
    char ch;
    while ((ch = fgetc(file1_copy)) != EOF)
    {
      fputc(ch, file2);
    }
    fclose(file1_copy);
    fclose(file2);
  }

  return 0;
}
```

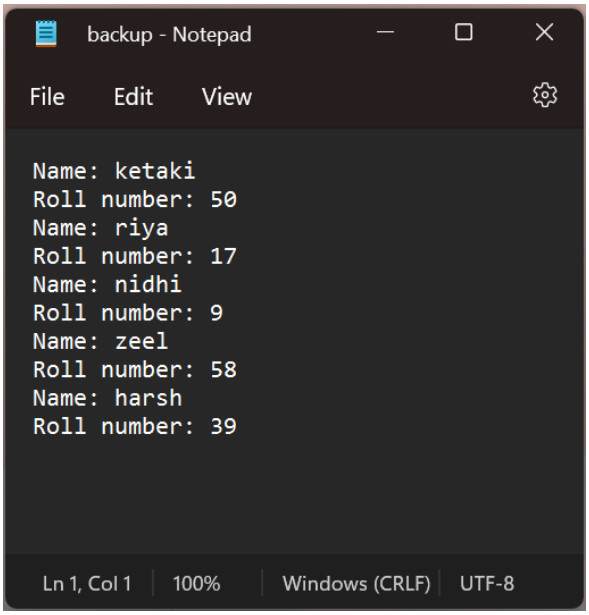
Output(s):

- Inputting data for 5 students -

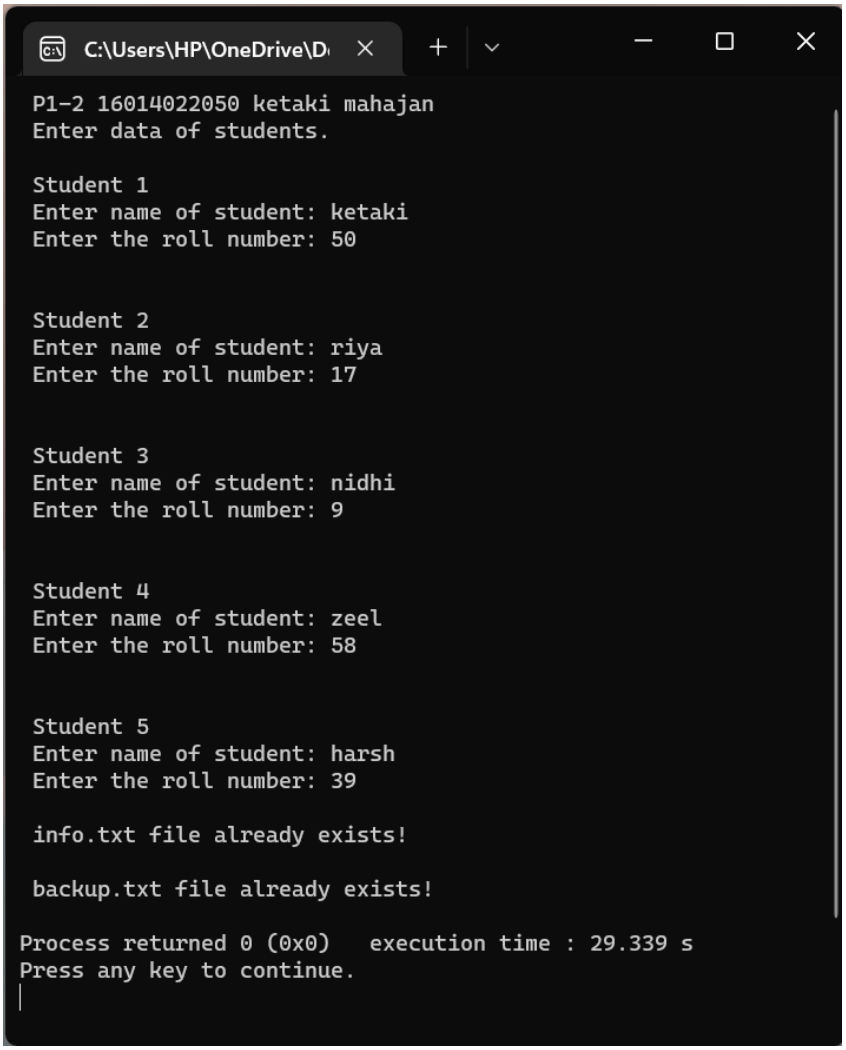


- info and backup files -





- info and backup file exists -



Conclusion:

To conclude, carrying out experiment 8 has resulted in learning various new concepts such as –

- creation of a new file (fopen() with attributes as “a” or “a+” or “w” or “w+”).
- closing a file (fclose()).
- opening an existing file.
- reading data from a file.
- writing data in a file

Hence, I was able to successfully carry out experiment 8 and fulfil the objectives that the problem defined as seen in the output.

Post Lab Descriptive Questions:

Write a program to append the contents of one file at the end of another.

```
#include <stdio.h>
#include <stdlib.h>
main()
{
   FILE *fsring1, *fsring2, *ftemp;
   char ch, file1[20], file2[20], file3[20];

   printf("Enter name of first file ");
   gets(file1);
   printf("Enter name of second file ");
   gets(file2);
   printf("Enter name to store merged file ");
   gets(file3);
   fsring1 = fopen(file1, "r");
   fsring2 = fopen(file2, "r");
   if (fsring1 == NULL || fsring2 == NULL)
   {
      perror("Error has occured");
      printf("Press any key to exit...\n");
      exit(EXIT_FAILURE);
   }
   ftemp = fopen(file3, "w");
   if (ftemp == NULL)
   {
      perror("Error has occures");
      printf("Press any key to exit...\n");
      exit(EXIT_FAILURE);
   }
   while ((ch = fgetc(fsring1)) != EOF)
      fputc(ch, ftemp);
```

```
    while ((ch = fgetc(fsring2) ) != EOF)
        fputc(ch, ftemp);
    printf("Two files merged  %s successfully.\n", file3);
    fclose(fsring1);
    fclose(fsring2);
    fclose(ftemp);
    return 0;
}
```

```
Enter name of first file days.txt
Enter name of second file months.txt
Enter name to store merged file merge.txt
Two files merged merge.txt successfully.
Process returned 0 (0x0)   execution time : 0.030 s
Press any key to continue.
```

Date: _____ **Signature of faculty in-charge**