Computer Programming Lab

CEN-392

Program 11

Code :-

```c
#include <stdio.h>
#include <stdbool.h>
struct Student
{
    char Name[100];
    int Roll_No;
    float Sub_1, Sub_2, Sub_3, Percentage;
};

void Insert_Row()
{
    printf("Insert Operation Is Selected...\n");
    FILE *fptr;
    fptr = fopen("Data.txt", "a");
    if (fptr == NULL)
    {
```

```
        printf("Error In Opening File!");
        return;
    }
    struct Student Stud;
    printf("Enter The Name : ");
    fflush(stdin);
    gets(Stud.Name);
    printf("Enter The Roll No : ");
    scanf("%d", &Stud.Roll_No);
    printf("Enter The Marks Of Subject 1 : ");
    scanf("%f", &Stud.Sub_1);
    printf("Enter The Marks Of Subject 2 : ");
    scanf("%f", &Stud.Sub_2);
    printf("Enter The Marks Of Subject 3 : ");
    scanf("%f", &Stud.Sub_3);
    Stud.Percentage = (Stud.Sub_1 + Stud.Sub_2 + Stud.Sub_3)
/ 3;
    int num = 4;
    fwrite(&Stud, sizeof(Stud), 1, fptr);
    fclose(fptr);
    printf("\nRecord Inserted Successfully!\n");
}

void Display()
{
    printf("Display...\n");
    FILE *fptr;
    fptr = fopen("Data.txt", "r");
    if (fptr == NULL)
    {
        printf("Error In Opening File!\n");
        return;
    }
    struct Student Temp;
    printf("| Name | Roll No | Subject 1 | Subject 2 |
Subject 3 | Percentage |\n\n");
    while (fread(&Temp, sizeof(Temp), 1, fptr))
    {
```

```
        printf("%s\t%d\t%.2f\t%.2f\t%.2f\t%.2f\n",
Temp.Name, Temp.Roll_No, Temp.Sub_1, Temp.Sub_2, Temp.Sub_3,
Temp.Percentage);
    }
    fclose(fptr);
}

void Remove_Row()
{
    FILE *fptr = NULL, *tptr = NULL;
    fptr = fopen("Data.txt", "r");
    if (fptr == NULL)
    {
        printf("Error In Opening File!\n");
        return;
    }
    tptr = fopen("temp.txt", "a");
    printf("Remove Operation Is Selected...\n");
    int Roll_No;
    printf("Enter The Roll No Of Student : ");
    scanf("%d", &Roll_No);
    struct Student Temp;
    bool Found = false;
    while (fread(&Temp, sizeof(Temp), 1, fptr))
    {
        if (Roll_No == Temp.Roll_No)
        {
            Found = true;
            continue;
        }
        fwrite(&Temp, sizeof(Temp), 1, tptr);
    }
    fclose(fptr);
    fclose(tptr);
    remove("Data.txt");
    rename("temp.txt", "Data.txt");
    if (Found == false)
        printf("\nNo Such Roll No Found In Data Base\n");
    else
```

```
        printf("\nRow Successfully Removed!\n");
}

void Update_Row()
{
    FILE *fptr = NULL, *tptr = NULL;
    fptr = fopen("Data.txt", "r");
    if (fptr == NULL)
    {
        printf("Error In Opening File!\n");
        return;
    }
    tptr = fopen("temp.txt", "a");
    printf("Update Operation Is Selected...\n");
    int Roll_No;
    printf("Enter The Roll No Of Student : ");
    scanf("%d", &Roll_No);
    struct Student Temp;
    bool Found = false;
    while (fread(&Temp, sizeof(Temp), 1, fptr))
    {
        if (Roll_No == Temp.Roll_No)
        {
            Found = true;
            printf("Enter The Name : ");
            fflush(stdin);
            gets(Temp.Name);
            printf("Enter The Roll No : ");
            scanf("%d", &Temp.Roll_No);
            printf("Enter The Marks Of Subject 1 : ");
            scanf("%f", &Temp.Sub_1);
            printf("Enter The Marks Of Subject 2 : ");
            scanf("%f", &Temp.Sub_2);
            printf("Enter The Marks Of Subject 3 : ");
            scanf("%f", &Temp.Sub_3);
            Temp.Percentage = (Temp.Sub_1 + Temp.Sub_2 +
Temp.Sub_3) / 3;
        }
        fwrite(&Temp, sizeof(Temp), 1, tptr);
```

```
    }
    fclose(fptr);
    fclose(tptr);
    remove("Data.txt");
    rename("temp.txt", "Data.txt");
    if (Found == false)
        printf("\nNo Such Roll No Found In Data Base\n");
    else
        printf("\nRow Successfully Updated!\n");
}

void Add_Bars()
{
    printf("-----------------------------------------------
----------------------\n");
}

void Menu()
{
    printf("___Operation___\n");
    printf("1.Insert Row\n");
    printf("2.Remove Row\n");
    printf("3.Update Row\n");
    printf("4.Display\n");
    printf("5.Exit\n\n");
    printf("Enter Your Choice : ");
}

int Options()
{
    int opt;
    fflush(stdin);
    scanf("%d", &opt);
    Add_Bars();
    switch (opt)
    {
    case 1:
        Insert_Row();
        break;
```

```
        case 2:
            Remove_Row();
            break;
        case 3:
            Update_Row();
            break;
        case 4:
            Display();
            break;
        case 5:
            return 0;
        default:
            printf("Incorrect Input!\nTry Again!\n");
            break;
        }
        Add_Bars();
        return 1;
    }

    int main()
    {
        system("cls");
        printf("___Vicky_Gupta_20BCS070___\n\n");
        while (1)
        {
            Menu();
            if (!Options())
                break;
        }
        printf("Exiting...");
        Add_Bars();
        return 0;
    }
```

Output :-

```
___Vicky_Gupta_20BCS070___

___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 1
--------------------------------------------------
Insert Operation Is Selected...
Enter The Name : Vicky Gupta
Enter The Roll No : 70
Enter The Marks Of Subject 1 : 100
Enter The Marks Of Subject 2 : 80
Enter The Marks Of Subject 3 : 90

Record Inserted Successfully!
--------------------------------------------------
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 1
--------------------------------------------------
Insert Operation Is Selected...
Enter The Name : Ijlal Ahmed
Enter The Roll No : 60
Enter The Marks Of Subject 1 : 100
Enter The Marks Of Subject 2 : 90
Enter The Marks Of Subject 3 : 100

Record Inserted Successfully!
--------------------------------------------------
```

```
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 1
-----------------------------------------------------------------------
Insert Operation Is Selected...
Enter The Name : Mohd Haider
Enter The Roll No : 45
Enter The Marks Of Subject 1 : 90
Enter The Marks Of Subject 2 : 100
Enter The Marks Of Subject 3 : 96

Record Inserted Successfully!
-----------------------------------------------------------------------
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 4
-----------------------------------------------------------------------
Display...
| Name | Roll No | Subject 1 | Subject 2 | Subject 3 | Percentage |

Vicky Gupta     70      100.00  80.00   90.00   90.00
Ijlal Ahmed     60      100.00  90.00   100.00  96.67
Mohd Haider     45      90.00   100.00  96.00   95.33
-----------------------------------------------------------------------
```

```
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 2
--------------------------------------------------------------------------------
Remove Operation Is Selected...
Enter The Roll No Of Student : 45

Row Successfully Removed!
--------------------------------------------------------------------------------
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 4
--------------------------------------------------------------------------------
Display...
| Name | Roll No | Subject 1 | Subject 2 | Subject 3 | Percentage |

Vicky Gupta     70      100.00  80.00   90.00   90.00
Ijlal Ahmed     60      100.00  90.00   100.00  96.67
--------------------------------------------------------------------------------
```

```
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 3
--------------------------------------------------------------------------------
Update Operation Is Selected...
Enter The Roll No Of Student : 70
Enter The Name : Vicky Gupta
Enter The Roll No : 70
Enter The Marks Of Subject 1 : 96
Enter The Marks Of Subject 2 : 88
Enter The Marks Of Subject 3 : 84

Row Successfully Updated!
--------------------------------------------------------------------------------
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 4
--------------------------------------------------------------------------------
Display...
| Name | Roll No | Subject 1 | Subject 2 | Subject 3 | Percentage |

Vicky Gupta     70      96.00   88.00   84.00   89.33
Ijlal Ahmed     60      100.00  90.00   100.00  96.67
--------------------------------------------------------------------------------
___Operation___
1.Insert Row
2.Remove Row
3.Update Row
4.Display
5.Exit

Enter Your Choice : 5
--------------------------------------------------------------------------------
Exiting...--------------------------------------------------------------------
```