ENT 189 COMPUTER PROGRAMMING

LAB-4 FILES

Lecturer : Mdm. Humairah binti Mansor
Teaching Engineer : Mdm Sharifah Nurul Husna binti Syed Hanapi
Technician : Mdm. Siti Khalijah Binti Hasan @ Yusuf

Name : _____

Matric Number : _____

Program : Mechatronic Engineering

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OBJECTIVE

At the end of this lab, students should reach the below objective:

Able to develop simple programs using FILE concepts.

TASK 1

The following program is used to create a text file named task1.dat. Use the program to write and read the following data from the file task1.dat and observe the output.

11667	80.1
16756	29.7
19731	74.4
29876	68.9
21746	51.7
28391	84.6
39102	49.3

```
/* Task 1 */
#include<stdio.h>
int main(void)
{
        FILE *finp;
        int matno;
        float tmark;
        int index, numdata;

        finp = fopen("task1.dat", "w");

        printf("Number of Data");
        scanf("%d",&numdata);

                for(index=1;index<=numdata;index++)
                   {
                    printf("Enter Matrik Number");
                    scanf("%d",&matno);
                    printf("Enter Test Mark");
                    scanf("%f",&tmark);
                    fprintf(finp, "%d %f\n",matno,tmark);
                   }

        fclose(finp);

        finp=fopen("task1.dat","r");
```

```
        while(!foef(finp))
           {
            fscanf(finp, "%d %f\n",&matno, &tmark);
            printf("%d  %.2f\n",matno,tmark);
           }
        fclose(finp);
        return 0;
}
```

TASK 2

Using a sound level meter, the noise emanated from 20 Perodua Myvi at different frequency levels are measured and shown in Table-1.

(a) Write a program in C to write the data into a binary file named noise.dat.
(b) Write a program that reads the data from the file noise.dat and find the car that emanates the maximum noise at 400Hz.
(c) Also write a program that reads the data from the file noise.dat and find the cars whose noise level is less than 50 dB at 200 Hz.

Table-1 Car Noise Level (dB)

Vehicle Number	50Hz	100Hz	200Hz	400Hz	800Hz
AFK5750	48.5	50.6	53.7	55.0	58.1
AGU3583	55.0	54.1	69.0	65.2	63.9
BEE1526	57.1	60.4	72.1	70.0	66.7
CFC6685	43.9	47.4	49.6	47.9	55.8
HEW6670	50.0	62.6	62.6	61.6	61.3
KDT1670	50.1	62.6	62.6	61.6	61.3
KFC8421	54.3	58.0	63.7	60.0	64.0
MAN1985	51.2	52.8	61.0	61.9	62.8
PHD2772	51.3	55.6	58.8	59.3	59.8
PJJ3934	48.3	51.2	55.5	58.0	57.1
PPK9144	50.6	54.4	58.4	57.1	60.8
RAF2210	50.3	51.0	59.6	58.3	65.6
RGA2440	48.0	53.2	62.5	61.7	62.2
SAA1513	54.9	58.6	59.9	61.0	64.0
SAB3298	49.1	46.5	52.2	55.7	58.7
TAN9645	54.3	49.9	56.2	58.5	59.6
TCM7692	44.9	51.6	53.4	54.7	62.6
WHY4153	49.9	60.6	64.1	63.9	65.8
WWW1001	44.9	53.8	58.7	56.5	65.4

TASK 3

(a) Write a text file named students.dat to store the following table.

Matric No	Height (m)	Weight (kg)
10001	1.68	80.5
10002	1.80	79.2
10003	1.56	42.4
10004	1.63	57.1
10005	1.73	67.7
10006	1.51	70.8

(b) Write a program in C to read the data from the file students.dat and calculate the Body Mass Index (BMI) value for each student.

$$BMI = Weight / Height^2$$

Print your result in the following format:

Matric No Height (m) Weight (kg) BMI