EENG 5600 Microcomputer Engineering Assignment - 2

```c
#include <stdio.h>

#include <string.h>

#include<stdlib.h>

#include <stdbool.h>


struct catalogue

{

  char holder_name[25];//optional not used

  char song_name[25];

  char band_name[25];

  float price;

  int year_release;

}list[100];


void sort(int);// sorting file function

void sort(int k)

{

 int i, j;

 int temp =99;

 for(i=0; i<k;i++)

  {

    for (j=i+1;j<k;j++)

     {

       if (list[j].year_release>list[i].year_release)//comparing by year

       {

        strcpy(list[temp].band_name , list[i].band_name);//using temporary list to swap data

        strcpy(list[temp].song_name , list[i].song_name);

        list[temp].price = list[i].price;

        list[temp].year_release = list[i].year_release;
```

```c
            strcpy(list[i].band_name , list[j].band_name);

            strcpy(list[i].song_name , list[j].song_name);

            list[i].price = list[j].price;

            list[i].year_release = list[j].year_release;


            strcpy(list[j].band_name , list[temp].band_name);

            strcpy(list[j].song_name , list[temp].song_name);

            list[j].price = list[temp].price;

            list[j].year_release = list[temp].year_release;

        }

      }

  }

}


int main()

{

  FILE *myptr;// creating file pointer


  //FILE

  myptr = fopen("myFile.dat", "w");//creating file

  printf("Would you like to add to song collection?\n");//yes or no response

  char response[5];// ues or no

  gets(response);

  char yes[5] = "yes";

  int compare = strcmp(response, yes);// comparing for yes only

  int i= 0;

  while (compare ==0)

   {

     printf("Please enter Band name\n");// enter band details

     gets( &list[i].band_name);
```

```c
        printf("Please enter song name\n");

        gets(&list[i].song_name);

        printf("Please enter price\n");

        scanf("%f", &list[i].price);

        printf("Year release:\n");

        scanf("%d", &list[i].year_release);



        printf("Would you like to add data?\n");// repeating the response


        scanf("%s", response);//enter response

        gets(&list[i].holder_name);


        compare = strcmp(response, yes);//compare response

        i++;

        //

    }
  sort(i);

 //printf("compare=%d\n", compare);

 //store data in file

fprintf(myptr,"_____
_____\n");

    fprintf(myptr,"|\tBand name\t|\t\tPrice(£)\t|\tReleased Year|\t\tSong name\t\t|\n");

        fprintf(myptr,"----------------------------------------------------------------------------\n");

  for (int count =0; count<i; count++)//loop to enter data

    {


        fprintf(myptr,"|\t%*s\t|\t%*.2fGBP\t|\t%*d\t|\t%*s\t|\n",10, list[count].band_name, 10,
list[count].price, 10,list[count].year_release,20,list[count].song_name);

        fprintf(myptr,"----------------------------------------------------------------------------\n");
```

```c
  }
int readline = 0;

int currentline = 1;

char content[2048];//string to save line data

fclose(myptr);//close write file


myptr = fopen("myFile.dat","r+");//open read file

//rewind(myptr);


 if (myptr == NULL)// if file not found
{
  printf("Error opening file.\n");

  return 1;//end program

 }
for (readline =1;readline<=2*i + 3;readline++)//loop to print file on screen
 {
   fgets(content , 2048, myptr);// read data from file

   if (currentline == readline)

   {
   printf("%s", content);

   }

   currentline++;

 }
fclose(myptr);// close file

return 0;

}
```

```
Rock you
Please enter price
0.99
Year release:
1987
Would you like to add data?
yes
Please enter Band name
Beatles
Please enter song name
hey jiude
Please enter price
1.01
Year release:
1964
Would you like to add data?
yes
Please enter Band name
Ed Sheeran
Please enter song name
Tol
Please enter price
1.50
Year release:
2015
Would you like to add data?
no
```

Band name	Price(£)	Released Year	Song name
Ed Sheeran	1.50GBP	2015	Tol
Queens	0.99GBP	1987	Rock you
Beatles	1.01GBP	1964	hey jiude