EED 1010 ALGORITHMS & PROGRAMMING

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Lab task 7

Lab Section: 4(lab), 1(theory)

Task 1 : Write a C program that takes the account number, name and balance of customers and write them to a file. The program then reads the written file and displays the information of the customers on screen. A sample output screen for five customers is shown below. As shown in the figure, the <ctrl> z is entered to end entering information.

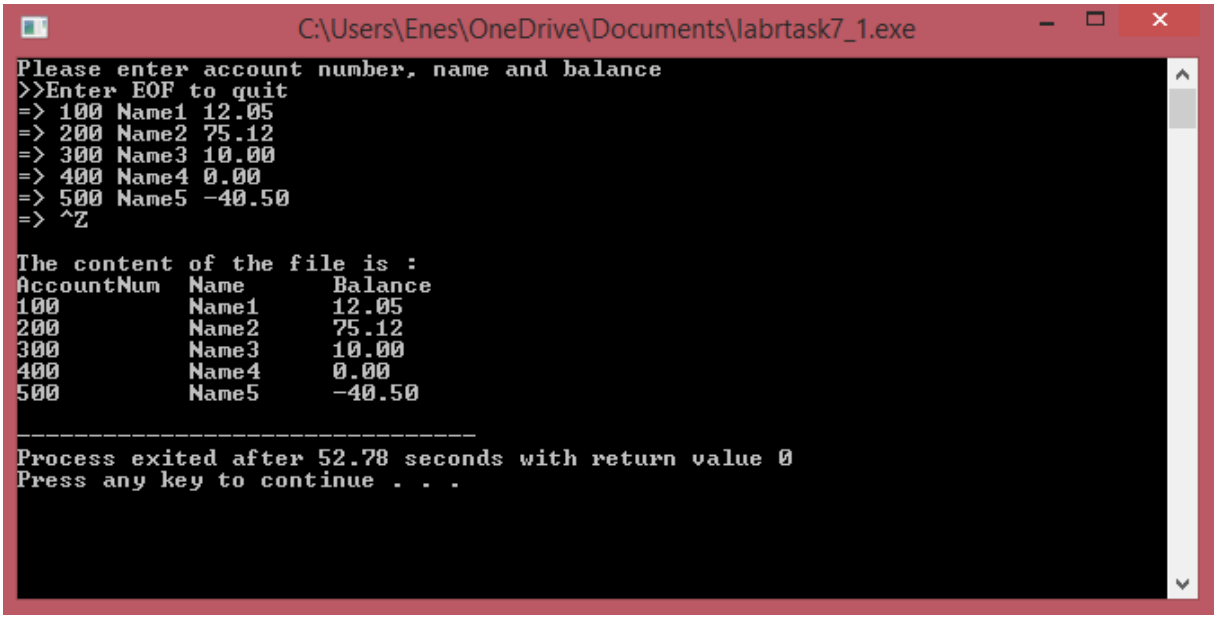
```
Enter your account number, name and balance..
Enter EOF to quit
=> 100 Name1 12.05
=> 200 Name2 75.12
=> 300 Name3 10.00
=> 400 Name4 0.00
=> 500 Name5 -40.50
=> ^Z

The content of the file is :
AccountNum      Name            Balance
100             Name1           12.05
200             Name2           75.12
300             Name3           10.00
400             Name4           0.00
500             Name5           -40.50
```

Figure 1.1: Output of Laboratory study task1

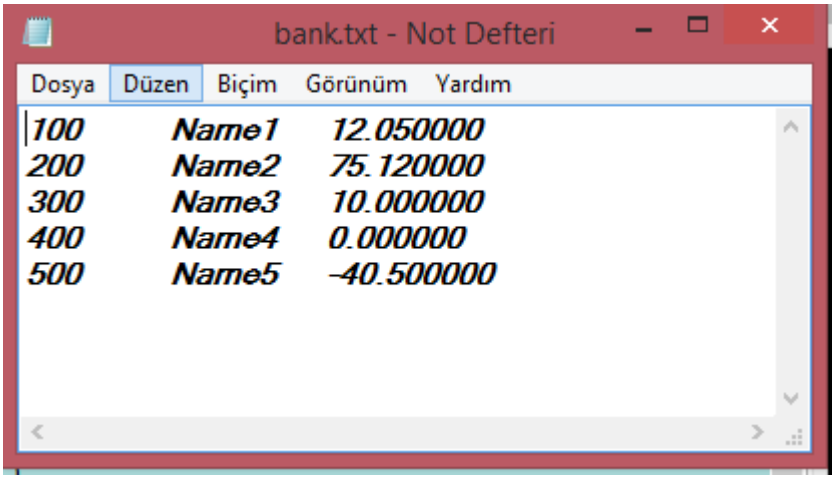
The code:

```
#include<stdio.h>


main()
{
        int accnum,taccnum;
        char name[10],tname[10];
        double balance,tbalance;

        FILE *a;

        if((a=fopen("bank.txt","w"))==NULL)
           printf("File couldnt open\n");
```

```
        else
        {
                printf("please enter account number, name and balance\n>>");
                scanf("%d%s%lf",&accnum,name,&balance);

                while(!feof(stdin))
                {
                        fprintf(a,"%-12d%-10s%lf\n",accnum,name,balance);
                        printf(">>");
                        scanf("%d%s%lf",&accnum,name,&balance);
                }

                fclose(a);
        }

        if((a=fopen("bank.txt","r"))==NULL)
           printf("File couldnt find");

        else
        {
                fscanf(a,"%d%s%lf",&taccnum,tname,&tbalance);

                while(!feof(a))
                {
                        printf("%d %s %lf",taccnum,tname,tbalance);
                   fscanf(a,"%d%s%lf",&taccnum,tname,&tbalance);
                }

                fclose(a);
        }
}
```

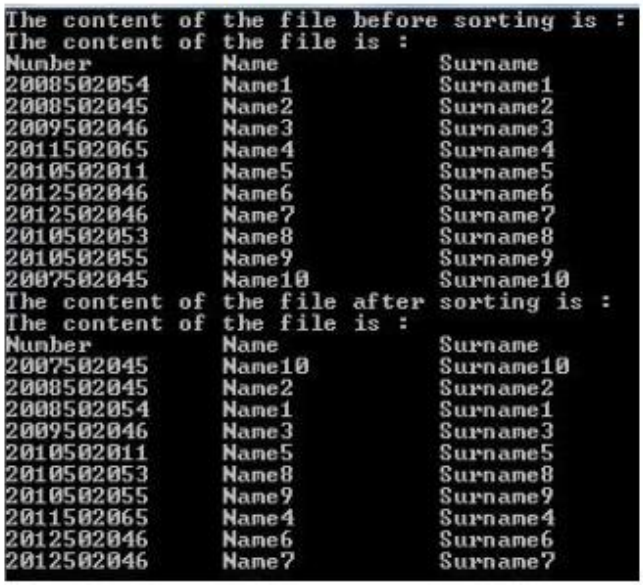


The output of the code



The file(bank.txt) which creted by code

Task 2: You are given a file named as Input.dat containning a list of students' information including student number, student name and surname. Write a C program reads the given file and displays it on the screen. Then, the program orders the students in ascending manner according to their student numbers and writes the ordered list to a file named as Output.dat and also display Output.dat on screen.A sample screenshot is given below.

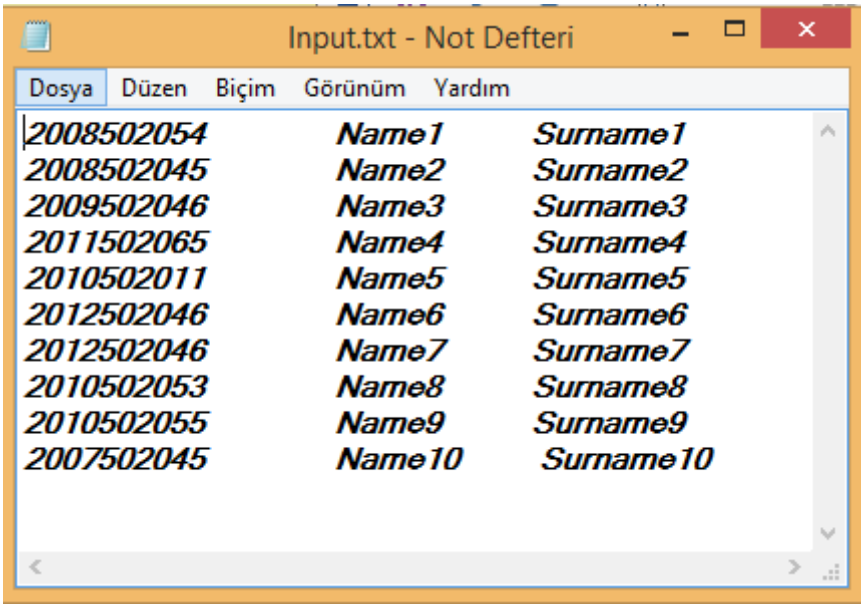


In my computer .dat file supporting different kind of file so I made the table by myself(txt file).

The code which I created to make a table

```
#include <stdio.h>

#include <stdlib.h>


main()

{


        long long int
num[10]={2008502054,2008502045,2009502046,2011502065,2010502011,2012502046,201250204
6,2010502053,2010502055,2007502045};

        char
name[10][10]={"Name1","Name2","Name3","Name4","Name5","Name6","Name7","Name8","Name
9","Name10"};
```

```
        char
sname[10][10]={"Surname1","Surname2","Surname3","Surname4","Surname5","Surname6","Surna
me7","Surname8","Surname9","Surname10"};

        FILE *a;

        int i;


        a=fopen("Input.txt","w");


   for(i=0;i<10;i++)

      fprintf(a,"%-23lli%-14s%s\n",num[i],name[i],sname[i]);


        fclose(a);

}
```



The file(Input.txt)

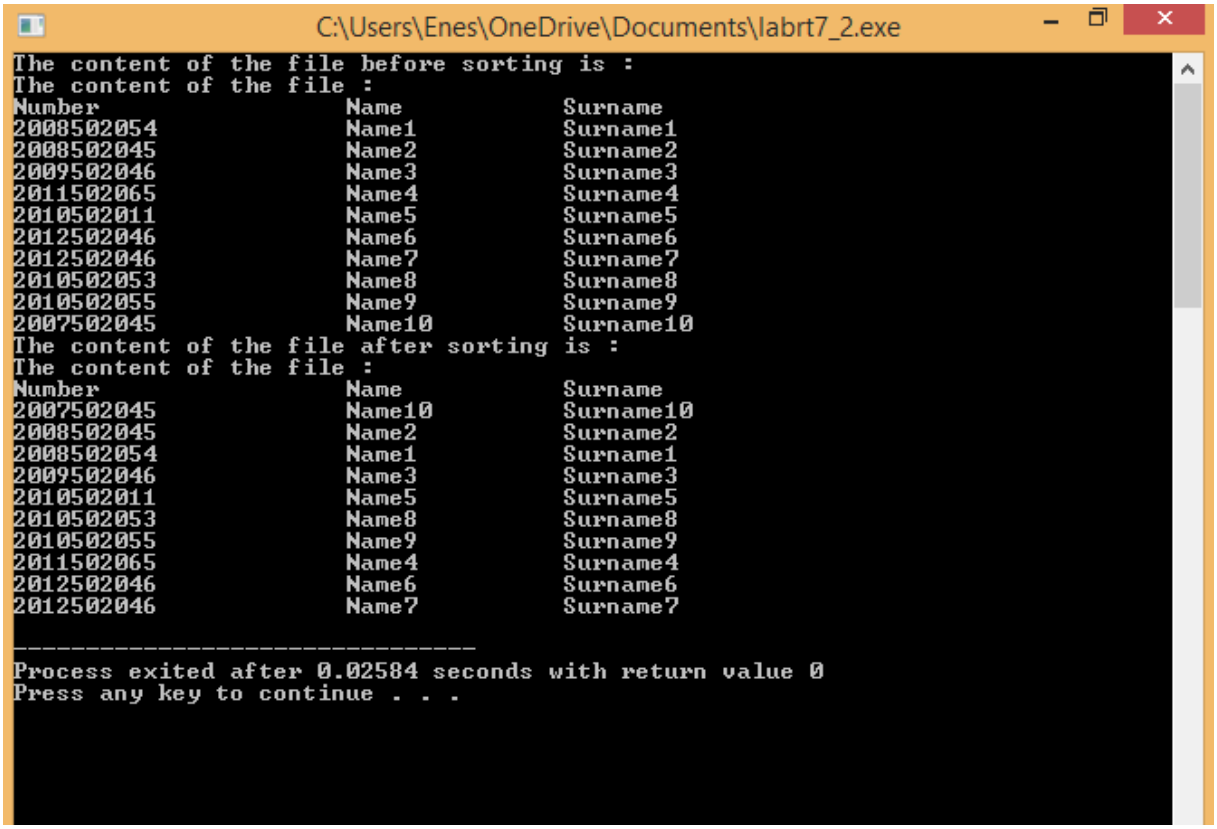
The code :

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

void bblsrt(long long int [],int [],int );
void swap(int *,int *);
void swap1(long long int *,long long int *);
//prototype of the functions

void bblsrt(long long int a[],int b[],int n)
{  //buble sort
        int i,j;

        for(i=0;i<n-1;i++)
        {
                for(j=0;j<n-i-1;j++)
                {
                  if(a[j]>a[j+1])  //if a[j]>a[j+1] is true
             {
                   swap(&b[j],&b[j+1]);
                   swap1(&a[j],&a[j+1]);
                   //change the index order and sort numbers
                  }
           }
        }
}

void swap(int *p,int *p1)
{//swap values(int)
```

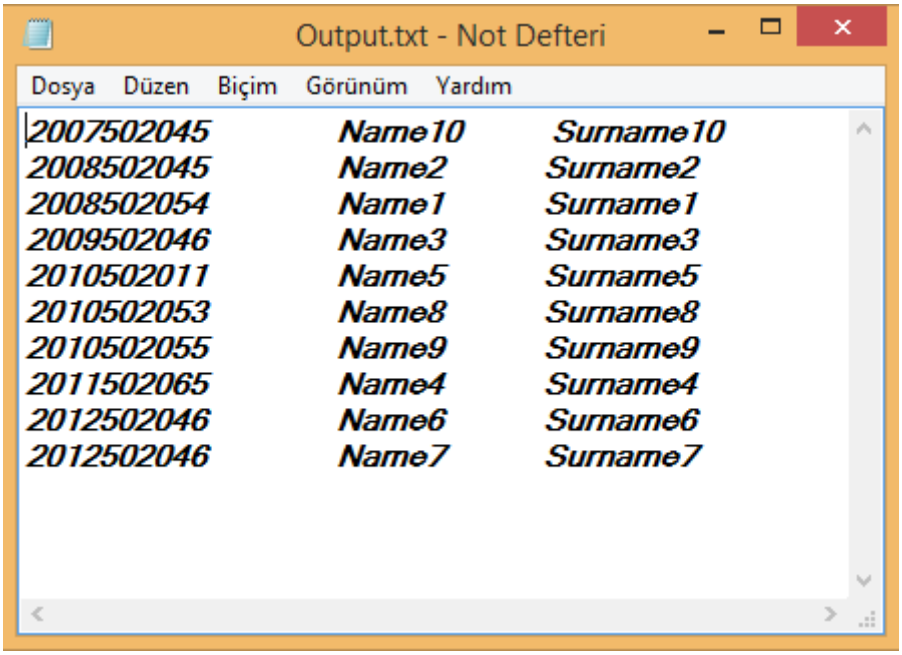
```
	int temp;

	temp=*p;
	*p=*p1;
	*p1=temp;
}

void swap1(long long int *p2,long long int *p3)
{//swap values(long long int)
	long long int temp;

	temp=*p2;
	*p2=*p3;
	*p3=temp;
}

main()
{
	int i=0,ar[10]={0,1,2,3,4,5,6,7,8,9};
	char temp[150],name[10][20],sname[10][20],tname[20],tsname[20];
	long long int num[10],tnum,a;
	//declaring variables
	FILE *fptr,*f1ptr,*f2ptr;
	//declaring 3 file pointers
	if((fptr=fopen("Input.txt","r"))==NULL)
	  printf("File couldnt open");
	  //if computer couldnt read the text file
	else
	{//if copmuter read the text file
		printf("The content of the file before sorting is :\n");
		printf("The content of the file :\n");
```

```
            printf("%-23s%-15s%-s\n","Number","Name","Surname");
            fscanf(fptr,"%lli%s%s",&tnum,tname,tsname);
            num[i]=tnum;
            strcpy(name[i],tname);
            strcpy(sname[i],tsname);
            //take the datas from to end of line and copy to arrays
            printf("%-23lli%-15s%s\n",tnum,tname,tsname);
            //display the line which one is coppied to the arrays
            i++;
            while(!feof(fptr) && i<10)
            {
            //take the datas from to end of line and copy to arrays to the end of file
                    fscanf(fptr,"%lli%s%s",&tnum,tname,tsname);
               num[i]=tnum;
        strcpy(name[i],tname);
        strcpy(sname[i],tsname);
        printf("%-23lli%-15s%s\n",tnum,tname,tsname);
        i++;
        //display the line which one is coppied to the arrays
            }
            //close the file
            fclose(f1ptr);
    }
    //send arrays to the functions to sort num array and their index order
    bblsrt(num,ar,10);

    if((f1ptr=fopen("Output.txt","w"))==NULL)
printf("File couldnt open");
    //if couldnt open
    else
    {//if file open
```

```
            for(i=0;i<10;i++)
               fprintf(f1ptr,"%-23lli%-15s%s\n",num[i],name[ar[i]],sname[ar[i]]);
               //write the arrays to the new file(output.txt)
            fclose(f1ptr);//close the file
   }



   if((f2ptr=fopen("Output.txt","r"))==NULL)
      printf("File couldnt open");
    //if output.txt couldnt read
   else
   {
         printf("The content of the file after sorting is :\n");
         printf("The content of the file :\n");
         printf("%-23s%-15s%s\n","Number","Name","Surname");
                  //if output.txt could read
                  fscanf(f2ptr,"%lli%s%s",&tnum,tname,tsname);
                  printf("%-23lli%-15s%s\n",tnum,tname,tsname);
                  //take data's from the file and display ont the screen
                  while(!feof(f2ptr))
                  {
                           fscanf(f2ptr,"%lli%s%s",&tnum,tname,tsname);
                           if(!feof(f2ptr))
                     printf("%-23lli%-15s%s\n",tnum,tname,tsname);
                  }
         }
}
```



The output of the code



The Output.txt