Programming in C

Lab Project (Semester-1)

PET ADOPTION CENTER MANAGEMENT

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Contents

Title of Project

Pet Adoption Center Management

Description of Project

The proposed project is entirely designed in C language. The key features of C like file handling,function and recursion are used.The main idea of this project is to provide a user friendly interface to automate the process of serving towards the welfare of pets by giving the pet animals a new shelter.

Users of the System

- Customer
- Manager

Facilities provided by the system

• Customer:

o Browse pets

o Adopt pets

o Receive adoption certificate

• Manager:

o Add pets

o Update status of pets

o Delete records

Code

```
#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#include <string.h>
#define MAX 256


int browse_pets();
int browse_breeds(int a);

void print_species_file();
```

```
void print_breed1_file();
void print_breed2_file();
void print_breed3_file();
void know_breed(int a,int b);
int post_know();
void buy_breed(int a,int b);
void adoption_certificate(int a,int b,int c);


void manager_menu();
int mn_choice();
void consequence(int a);









int main()
{
    system("COLOR 0A");

printf("\n\n_____
_____");

printf("\n_____
___\n\n\n\n");
    printf("\t\t\t\t\t\t\t\t\t\t\t\t\tPET ADOPTION CENTER\n\n\n\n\n");
    char name[20];char mn[]={"manager"};char cst[]={"customer"};


    printf("Hello, Welcome to our PET ADOPTION CENTER\n\n\n\n");
    printf("Enter your role: ");
    char role[9];
    gets(role);
    system("pause");
    system("cls");
    if(strcmpi(cst,role)==0)
    {
        printf("ENTER YOUR NAME: ");
```

```
        gets(name);

        system("COLOR 0B");
        system("cls");
        printf("\n\n\n\n\t\t\t\t\t\t\t Hello %s\n",name);
        printf("\t\t\t\t\t\tLooking to add a pet to your family ? Find one at
this pet adoption center ......\n");
        int species_=browse_pets();
        int breed_=browse_breeds(species_);
        know_breed(species_,breed_);
        char ans_=post_know();









        char animal1[]={"Cockatiel"},animal2[]={"Hyacinth
Macaw"},animal3[]={"Budgerigar"},animal4[]={"Green Cheeked
Conure"},animal5[20]={"Electus Parrot"},
        animal6[]={"Persian Cats"},animal7[]={"British
Shorthairs"},animal8[]={"Ragdoll"},animal9[]={"Maine
Coon"},animal10[]={"Siamese Cats"},animal11[]={"Golden Retreiver"},
        animal12[]={"Poodle"},animal13[]={"Siberian
Husky"},animal14[]={"German Shepherd"},animal15[]={"Labrador Retriever"};
        int ans,species,breed;
        ans=ans_;species=species_;breed=breed_;
        printf("%d %d %d",ans,species,breed);

        char animal[20];






        if(ans==121 || ans== 89){

            if(species==1)
            {
                 if(breed==1)
                 {
                  strcpy(animal,animal1);
                 }
```

```
      else if(breed==2){
       strcpy(animal,animal2);
      }
      else if (breed==3){
       strcpy(animal,animal3);
      }
      else if (breed==4){
        strcpy(animal,animal4);
      }
      else if(breed==5){
        strcpy(animal,animal5);
      }

 }
else if(species==2)
 {
      if(breed==1)
      {
       strcpy(animal,animal6);
      }
      else if(breed==2){
       strcpy(animal,animal7);
      }
      else if (breed==3){
        strcpy(animal,animal8);
      }
      else if (breed==4){
        strcpy(animal,animal9);
      }
      else if(breed==5){
         strcpy(animal,animal10);
      }

 }
else if(species==3)
 {
      if(breed==1)
      {
       strcpy(animal,animal11);
      }
      else if(breed==2){
       strcpy(animal,animal12);
      }
      else if (breed==3){
```

```
                strcpy(animal,animal13);
                }
                else if (breed==4){
                 strcpy(animal,animal14);
                }
                else if(breed==5){
                  strcpy(animal,animal15);
                }

            }
            system("cls");
            printf("\n\n\n\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t\tADOPTION
CERTIFICATE\n\n\n\n\n\n\n\n\n\n\n\n\n\n");
            printf("\t\t\t\t\t\t\t\t\t\tThis is to certify that
\n\t\t\t\t\t\t\t\t\t\t%s \n\t\t\t\t\t\t\t\t\t\thas adopted
\n\t\t\t\t\t\t\t\t\t\t%s \n\t\t\t\t\t\t\t\t\t\tAnd invited into their forever
home.\n\n\n",name,animal);
}
    }
    if(strcmpi(mn,role)==0)
    {
        printf("ENTER YOUR ID: ");
        gets(name);

        system("COLOR 0E");
        system("cls");
        printf("Hello Manager!!\n\n");
        manager_menu();
        int choice=mn_choice();
        consequence(choice);


    }


    return 0;
}



void print_species_file()
{
     FILE *ffptr;char c;
    printf("\n\n\n\n\n\n");
```

```
    ffptr=fopen("species.txt","r+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);
        printf("\n\n");

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}


void print_breed1_file()
{
    FILE *ffptr;char c;
    system("cls");
    printf("\n\n\n\n\n\n");
    ffptr=fopen("breed1.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);
        printf("\n\n");


    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
```

```
void print_breed2_file()
{
    FILE *ffptr;char c;
    system("cls");
    printf("\n\n\n\n\n\n");
    ffptr=fopen("breed2.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);
        printf("\n\n");

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}


void print_breed3_file()
{
    FILE *ffptr;char c;
    system("cls");
    printf("\n\n\n\n\n\n");
    ffptr=fopen("breed3.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);
        printf("\n\n");

    }
    else {
            printf("\nFile does not exist");
            fclose(ffptr);

    }
```

```
}


int browse_pets(int a)
{
    print_species_file();
    printf("\n");
    scanf("%d",&a);
    if(a>=1&&a<=3)
    {
        return a;
    }
    else
    {
        system("cls");
        printf("\n\n\n\t\tInvalid choice\n\n");
        return browse_pets(a);
    }
}


int browse_breeds(int a)
{
    printf("Choose your favourite breed of pets:\n\n");
    if(a==1)
    {
        printf("\t\tMake your choice:\n\n\n\n");
        print_breed1_file();
        int n;
        scanf("%d",&n);
        return n;

    }
    else if(a==2)
    {
        printf("\t\tMake your choice:\n\n");
        print_breed2_file();
        int n;
        scanf("%d",&n);
        return n;

    }
    else if(a==3)
    {
```

```
        printf("\t\tMake your choice:\n\n");
        print_breed3_file();
        int n;
        scanf("%d",&n);
        return n;
    }
    else return -1;
}


void know_breed(int a,int b)
{
    if(a==1&&b==1)
    {
        FILE *ffptr;char c;
    ffptr=fopen("cockatiel.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
    }
    else if(a==1&&b==2)
    {
        FILE *ffptr;char c;
        ffptr=fopen("Hyacinth Macaw.txt","a+");
        if(ffptr!=NULL){
            while((c=fgetc(ffptr))!=EOF)
            {
                printf("%c",c);
            }
            fclose(ffptr);

        }
        else
```

```
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==1&&b==3)
{
    FILE *ffptr;char c;
    ffptr=fopen("Budgerigar.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==1&&b==4)
{
    FILE *ffptr;char c;
    ffptr=fopen("Green Cheeked Conure.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
```

```
else if(a==1&&b==5)
{
    FILE *ffptr;char c;
    ffptr=fopen("Eclectus Parrot.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==2&&b==1)
{
    FILE *ffptr;char c;
    ffptr=fopen("Persian Cat.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==2&&b==2)
{
    FILE *ffptr;char c;
    ffptr=fopen("British Shorthair.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
```

```
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==2&&b==3)
{
    FILE *ffptr;char c;
    ffptr=fopen("Ragdoll.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==2&&b==4)
{
    FILE *ffptr;char c;
    ffptr=fopen("Maine Coon.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
```

```
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==2&&b==5)
{
    FILE *ffptr;char c;
    ffptr=fopen("Siamese Cats.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==3&&b==1)
{
    FILE *ffptr;char c;
    ffptr=fopen("Golden Retriever.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
```

```
}
else if(a==3&&b==2)
{
    FILE *ffptr;char c;
    ffptr=fopen("Poodle.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==3&&b==3)
{
    FILE *ffptr;char c;
    ffptr=fopen("Siberian Husky.txt","a+");
    if(ffptr!=NULL){
        while((c=fgetc(ffptr))!=EOF)
        {
            printf("%c",c);
        }
        fclose(ffptr);

    }
    else
    {
        printf("\nFile does not exist");
        fclose(ffptr);

    }
}
else if(a==3&&b==4)
{
    FILE *ffptr;char c;
    ffptr=fopen("German Shepherd.txt","a+");
    if(ffptr!=NULL){
```

```
            while((c=fgetc(ffptr))!=EOF)
            {
                printf("%c",c);
            }
            fclose(ffptr);

        }
        else
        {
            printf("\nFile does not exist");
            fclose(ffptr);

        }
    }
    else if(a==3&&b==5)
    {
        FILE *ffptr;char c;
        ffptr=fopen("Labrador Retriever.txt","a+");
        if(ffptr!=NULL){
            while((c=fgetc(ffptr))!=EOF)
            {
                printf("%c",c);
            }
            fclose(ffptr);

        }
        else
        {
            printf("\nFile does not exist");
            fclose(ffptr);

        }
    }
}



int post_know()
{


    printf("Enter 'y' for yes and 'n' for no :\n");
    char c[2];char a[2]="y";char b[2]="n";
    scanf("%s",c);
```

```
    if (strcmp(a,c)==0)
    {
        printf("Thank you for adopting the pet.\nYou have found your new
friend.\n");
        return 121;
    }
    else if (strcmp(b,c)==0)
    {
        printf("Thank you for visiting.\n");
        exit(1);
    }

    else  return post_know();
}
```

```
//////////////manager/////////
```

```
//////////////manager/////////
```

```
void manager_menu()
{
    printf("\t\tWhat would you like to do?\n\n");
    printf("\t\tPress 1 to add pets.\n\n");
    printf("\t\tPress 2 to update status of pets.\n\n");
    printf("\t\tPress 3 to delete records.\n\n");
    printf("\t\tPress 4 to exit.\n\n");
}
```

```
int mn_choice()
{
    printf("\nEnter your choice:\n");
    int a;
    scanf("%d",&a);
    if(a>=1&&a<=4)
    {
        return a;
    }
    else
    {
        system("cls");
        printf("\n\n\n\t\tInvalid choice\n\n");
        manager_menu();
        return mn_choice();
    }
}



void consequence(int a)
{
    if(a==1)
    {
        int n;
        printf("In which species do you want to add pets?\n");
        print_species_file();
        scanf("%d",&n);
        if(n==1)
        {
            FILE * fptr;
            int i,n;
            char str[100];

            char str1;



printf("-----------------------------------------------------\n");

            fptr = fopen("breed1.txt", "a");
            printf(" Input the number of breeds to be added : ");
            scanf("%d", &n);
```

```
            printf(" The lines are : \n");
            for(i = 0; i < n+1;i++)
            {
                fgets(str, sizeof str, stdin);
                fputs(str, fptr);
            }
            fclose (fptr);
//----- Read the file after appended -------
            fptr = fopen ("breed1.txt", "r");
            printf("\n The content of the file is  :\n");
            str1 = fgetc(fptr);
            while (str1 != EOF)
                {
                    printf ("%c", str1);
                    str1 = fgetc(fptr);
                }
            printf("\n\n");
            fclose (fptr);
//------- End of reading ------------------
                }
        else if(n==2)
        {
                FILE * fptr;
            int i,n;
            char str[100];

            char str1;



printf("-----------------------------------------------------\n");

            fptr = fopen("breed2.txt", "a");
            printf(" Input the number of breeds to be added : ");
            scanf("%d", &n);
            printf(" The lines are : \n");
            for(i = 0; i < n+1;i++)
            {
                fgets(str, sizeof str, stdin);
                fputs(str, fptr);
            }
            fclose (fptr);
//----- Read the file after appended -------
            fptr = fopen ("breed2.txt", "r");
```

```
            printf("\n The content of the file is  :\n");
            str1 = fgetc(fptr);
            while (str1 != EOF)
                {
                    printf ("%c", str1);
                    str1 = fgetc(fptr);
                }
            printf("\n\n");
            fclose (fptr);
//------- End of reading ------------------
                }
        else if(n==3)
        {
            FILE * fptr;
            int i,n;
            char str[100];

            char str1;



printf("-----------------------------------------------------\n");

            fptr = fopen("breed3.txt", "a");
            printf(" Input the number of breeds to be added : ");
            scanf("%d", &n);
            printf(" The lines are : \n");
            for(i = 0; i < n+1;i++)
            {
                fgets(str, sizeof str, stdin);
                fputs(str, fptr);
            }
            fclose (fptr);
//----- Read the file after appended -------
            fptr = fopen ("breed3.txt", "r");
            printf("\n The content of the file is  :\n");
            str1 = fgetc(fptr);
            while (str1 != EOF)
                {
                    printf ("%c", str1);
                    str1 = fgetc(fptr);
                }
            printf("\n\n");
            fclose (fptr);
```

```
//------- End of reading ------------------
                }
        else
        {
            system("cls");
            printf("Invalid choice\n");
            consequence(a);

        }


    }
    else if(a==2)
    {
        int n;
        print_species_file();
        printf("\n");
        scanf("%d",&n);



        if(n==1)
    {
        printf("\t\tMake your choice:\n\n");
        print_breed1_file();

    }
    else if(n==2)
    {
        printf("\t\tMake your choice:\n\n");
        print_breed2_file();


    }
    else if(n==3)
    {
        printf("\t\tMake your choice:\n\n");
        print_breed3_file();

    }
    else
    {
        consequence(a);
    }
```

```
        FILE *fptr1, *fptr2;
        int lno, linectr = 0;
        char str[MAX], fname[MAX];
        char newln[MAX], temp[] = "temp.txt";

        printf("\n\n Name of the file is the same as that of the animal :\n");

printf("-------------------------------------------------------------\n");
        printf(" Input the file name to be opened : ");
        gets(fname);
        fgets(fname, MAX, stdin);
        fname[strlen(fname) - 1] = '\0';
        fptr1 = fopen(fname, "r");
        if (!fptr1)
        {
            printf("Unable to open the input file!!\n");
            consequence(a);
        }
        fptr2 = fopen(temp, "w");
        if (!fptr2)
        {
            printf("Unable to open a temporary file to write!!\n");
            fclose(fptr1);
        }

        printf(" Input the content of the new line : ");
        fgets(newln, MAX, stdin);

        printf(" Input the line no you want to replace : ");
        scanf("%d", &lno);

        while (!feof(fptr1))
        {
            strcpy(str, "\0");
            fgets(str, MAX, fptr1);
            if (!feof(fptr1))
            {
                linectr++;
                if (linectr != lno)
                {
                    fprintf(fptr2, "%s", str);
```

```
            }
            else
            {
                fprintf(fptr2, "%s", newln);
            }
        }
    }
    fclose(fptr1);
    fclose(fptr2);
    remove(fname);
    rename(temp, fname);
    printf(" Replacement done successfully..!! \n");

}

else if(a==3)
{
    int n;
    system("cls");
    printf("Enter for which species you want to delete the breed: ");
    print_species_file();
    scanf("%d",&n);
    if(n==1)
    {

        FILE* fp1;
        FILE* fp2;

        char ch;

        int line = 0;
        int temp = 1;

        fp1 = fopen("breed1.txt", "r");
        if (fp1 == NULL) {
            printf("\nUnable to open file\n");

        }

        while (!feof(fp1)) {
            ch = getc(fp1);
            printf("%c", ch);
        }
        rewind(fp1);
```

```
    printf("\nEnter line number to delete the line: ");
    scanf("%d", &line);

    fp2 = fopen("temp.txt", "w");

    while (!feof(fp1))
    {
        ch = getc(fp1);

        if (ch == '\n')
            {
                temp++;
            }

        if (temp != line)
        {
            putc(ch, fp2);
        }
    }

fclose(fp1);

fclose(fp2);

remove("breed1.txt");
rename("temp.txt", "breed1.txt");

printf("\nModified file:\n");

fp1 = fopen("breed1.txt", "r");
if (fp1 == NULL) {
    printf("\nUnable to open file\n");

}

while (!feof(fp1)) {
    ch = getc(fp1);
    printf("%c", ch);
}

fclose(fp1);

printf("\n");
```

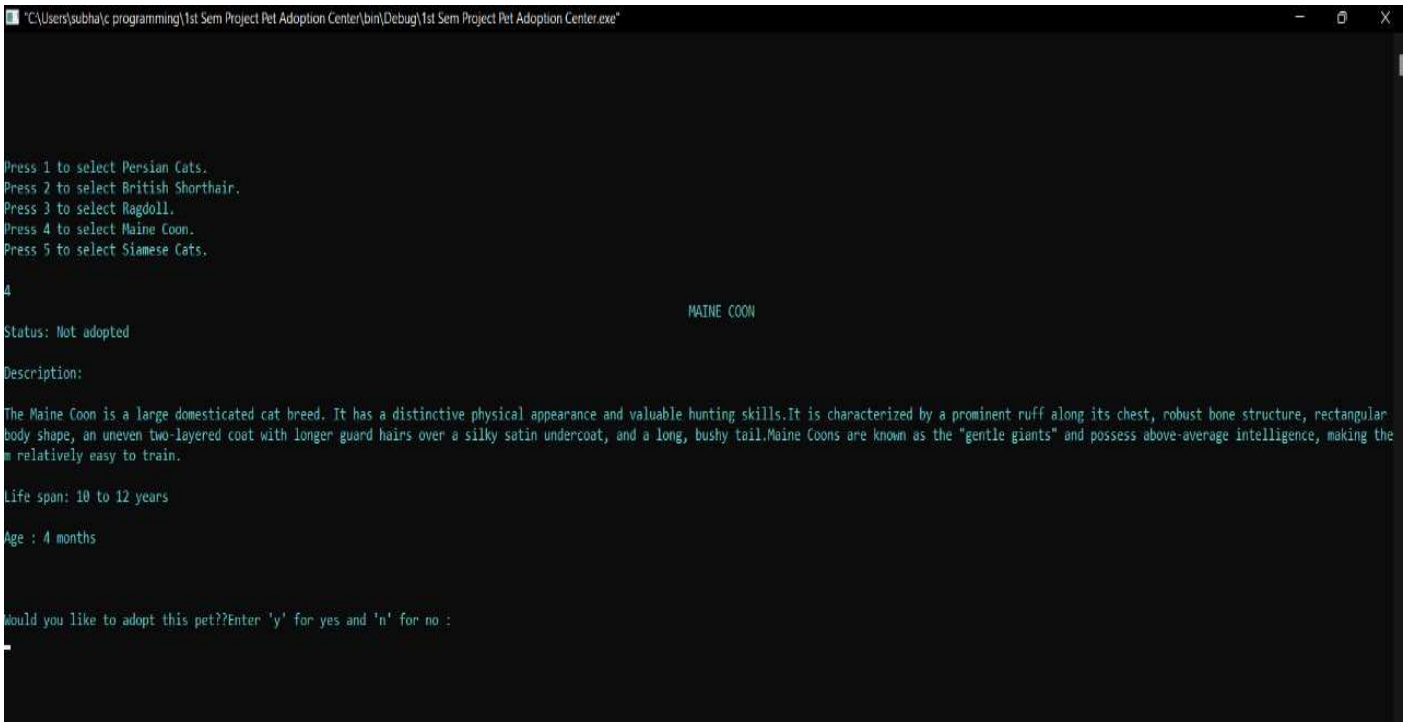
```
}

else if(n==2)
{

    FILE* fp1;
    FILE* fp2;

    char ch;

    int line = 0;
    int temp = 1;

    fp1 = fopen("breed2.txt", "r");
    if (fp1 == NULL) {
        printf("\nUnable to open file\n");

    }

    while (!feof(fp1)) {
        ch = getc(fp1);
        printf("%c", ch);
    }
    rewind(fp1);

    printf("\nEnter line number to delete the line: ");
    scanf("%d", &line);

    fp2 = fopen("temp.txt", "w");

    while (!feof(fp1))
    {
        ch = getc(fp1);

        if (ch == '\n')
            {
                temp++;
            }

        if (temp != line)
        {
            putc(ch, fp2);
        }
```

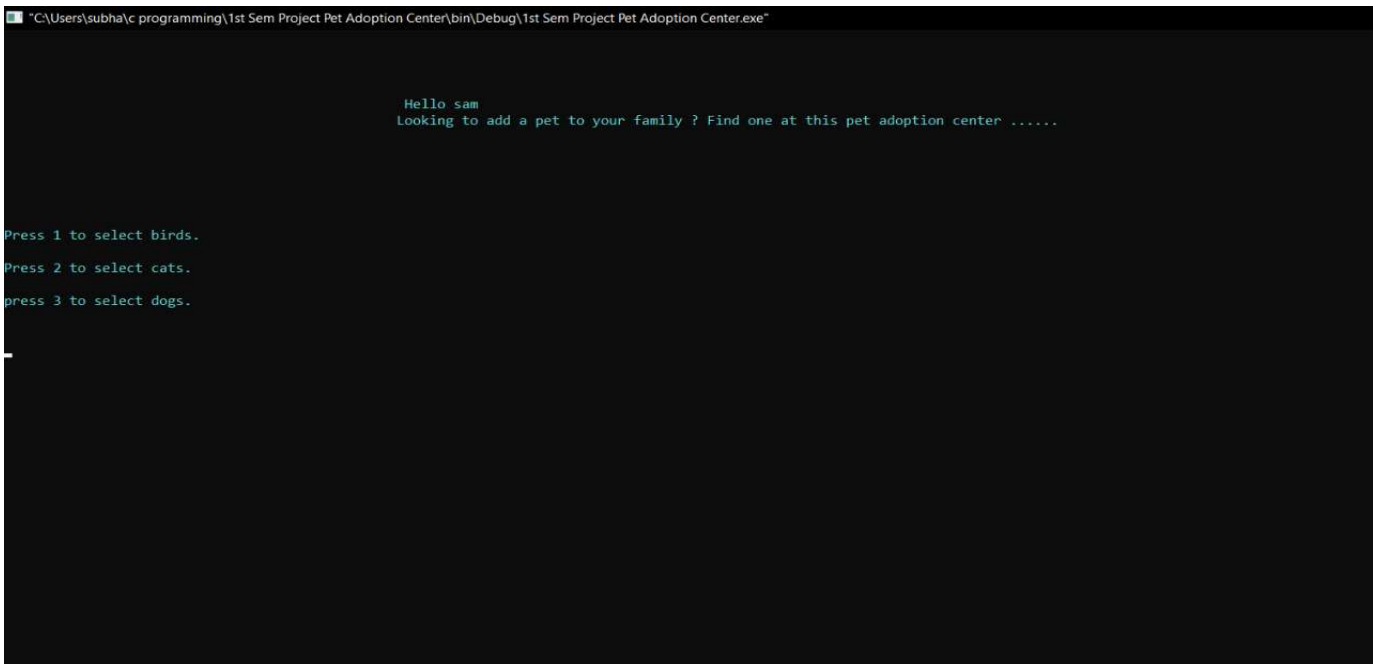
```
    }

fclose(fp1);

fclose(fp2);

remove("breed2.txt");
rename("temp.txt", "breed2.txt");

printf("\nModified file:\n");

fp1 = fopen("breed2.txt", "r");
if (fp1 == NULL) {
    printf("\nUnable to open file\n");

}

while (!feof(fp1)) {
    ch = getc(fp1);
    printf("%c", ch);
}

fclose(fp1);

printf("\n");

}

else if(n==3)
{

    FILE* fp1;
    FILE* fp2;

    char ch;

    int line = 0;
    int temp = 1;

    fp1 = fopen("breed3.txt", "r");
    if (fp1 == NULL) {
        printf("\nUnable to open file\n");

    }
```

```
    while (!feof(fp1)) {
        ch = getc(fp1);
        printf("%c", ch);
    }
    rewind(fp1);

    printf("\nEnter line number to delete the line: ");
    scanf("%d", &line);

    fp2 = fopen("temp.txt", "w");

    while (!feof(fp1))
    {
        ch = getc(fp1);

        if (ch == '\n')
            {
                temp++;
            }

        if (temp != line)
        {
            putc(ch, fp2);
        }
    }

fclose(fp1);

fclose(fp2);

remove("breed3.txt");
rename("temp.txt", "breed3.txt");

printf("\nModified file:\n");

fp1 = fopen("breed3.txt", "r");
if (fp1 == NULL) {
    printf("\nUnable to open file\n");

}

while (!feof(fp1)) {
    ch = getc(fp1);
```

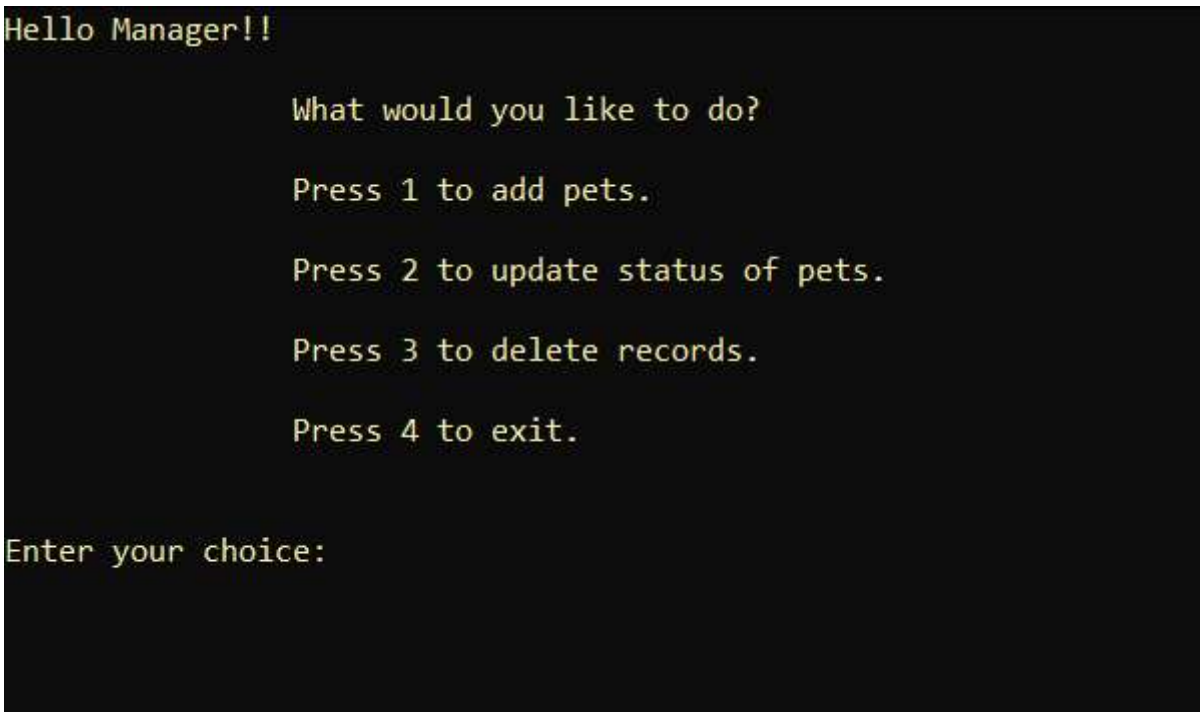
```
            printf("%c", ch);
        }

        fclose(fp1);

        printf("\n");

        }

        else
        {
            system("cls");
            printf("Invalid choice\n");
            consequence(a);
        }
        }

}
```

Sample Outputs




"C:\Users\subha\c programming\1st Sem Project Pet Adoption Center\bin\Debug\1st Sem Project Pet Adoption Center.exe"
Hello sam
Looking to add a pet to your family ? Find one at this pet adoption center .....
Press 1 to select birds.
Press 2 to select cats.
press 3 to select dogs.


ADOPTION CERTIFICATE
This is to certify that
sam
has adopted
Maine Coon
And invited into their forever home.



Contribution by group members

RITISH B421042:Integration of all functions in main function

SUBHAJIT B421054: Code for Customer

SUSHOBHAN B421058:Code for Manager

References

- Geeksforgeeks,"Basics of File Handling",Sandeep Jain, 2022, https://www.geeksforgeeks.org/basics-file-handling-c/
- Geeksforgeeks,"Recursive Functions",Sandeep Jain,2022, https://www.geeksforgeeks.org/recursive-functions/
- W3schools,"Basics of C",2022, https://www.w3schools.com/c/index.php