

PROGRAMMING FOR PROBLEM SOLVING

ASSIGNMENT -III

MINI PROJECT

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INTRODUCTION TO THE PROJECT:

Name of our mini project is “MASTER MIND”. This is an interactive quiz game which tests your knowledge in 5 general knowledge topics. They are:

- a) Sports
- b) Movies
- c) Country-capitals
- d) Inventions-inventors
- e) Covid-19.

There are 10 questions provided under each topic. After playing the quiz your marks will be displayed. U can see the high score under the option “View high Score”.

FUNCTIONS USED IN THE PROJECT:

USER-DEFINED FUNCTIONS:

Void()

PRE-DEFINED FUNCTIONS:

fprintf()

fscanf()

fclose()

getch()

toupper()

PROJECT CODE:

```
#include <stdio.h>

#include <conio.h>

#include <stdlib.h>

#include <stdlib.h>

#include <string.h>

#include <windows.h>

#include <ctype.h>

struct player_name

{

    char name[20];

}s;

void play();

void highscore();

void rules();

void reset();

void sports();

void movies();

void inventions();

void capitals();

void covid();

int main()

{

    printf("\t\t*****\n");

    printf("\t\t*\n");

    printf("\t\t*\n");
```

```
printf("\t\t*          WELCOME TO MASTER MIND!          *\n");
printf("\t\t*          *\n");
printf("\t\t*          *\n");
printf("\t\t*          *\n");
printf("\t\t*          *\n");
printf("\t\t*****\n");
```

```
printf("\n\n\t\tMENU:\n");
printf("\t\t1) Play Master Mind\n\n");
printf("\t\t2) View High Scores\n\n");
printf("\t\t3) Rules\n\n");
printf("\t\t4) Reset High Scores\n\n");
printf("\t\t5) Exit");
```

```
printf("\n\n\t\tSelect your option: ");
```

```
int option;
scanf("%d",&option);
```

```
if(option==1)
play();
```

```
else if(option==2)
highscore();
```

```
else if(option==3)
```

```
rules();
```

```
else if(option==4)
```

```
reset();
```

```
else if(option==5)
```

```
printf("\n\n\t\tThank You for playing Master Mind!!");
```

```
else
```

```
printf("\n\n\t\tPlease Enter Valid option ");
```

```
}
```

```
void play()
```

```
{
```

```
system("CLS");
```

```
printf("\n\n\t\tEnter your name: ");
```

```
scanf(" %s",&s.name);
```

```
printf("\n\n\t\tSelect a topic to test yourself:\n\n");
```

```
printf("\t\t\t1)SPORTS\n\n");
```

```
printf("\t\t\t2)MOVIES\n\n");
```

```
printf("\t\t\t3)COUNTRY CAPITALS\n\n");
```

```
printf("\t\t\t4)INVENTIONS-INVENTORS\n\n");
```

```
printf("\t\t\t5)COVID-19\n\n");  
printf("\t\t\t6)Return to Title Screen\n\n");
```

```
int option;  
int choice;  
printf("\t\t\tEnter your choice:\n\t\t\t ");  
scanf(" %d",&option);
```

```
switch(option)  
{  
    case 1:  
        sports();  
        break;  
  
    case 2:  
        movies();  
        break;  
  
    case 3:  
        capitals();  
        break;  
  
    case 4:  
        inventions();  
        break;
```

case 5:

covid();

break;

case 6:

{

 Sleep(400);

 system("CLS");

 main();

 return;

}

default:

printf("\n\t\tPlease Enter Valid option\n");

}

printf("\n\t\tPress 1 to play again.");

printf("\n\t\tPress 2 to return to Title Screen.");

printf("\n\t\tPress 3 to exit. ");

scanf(" %d",&choice);

if(choice==1)

{

 Sleep(1000);

 system("CLS");

 play();

```
}
```

```
else if (choice==2)
```

```
{
```

```
    Sleep(1000);
```

```
    system("CLS");
```

```
    main();
```

```
}
```

```
else if (choice==3)
```

```
printf("\n\t\tThank You for playing Master Mind!!");
```

```
}
```

```
void highscore()
```

```
{
```

```
    system("CLS");
```

```
    Sleep(1000);
```

```
    printf("\n");
```

```
{
```

```
    FILE *p,*q;
```

```
    char ch; int x;
```

```
p=fopen("./HIGH SCORE/sports_high.txt","r");
```

```
q=fopen("./NAMES/capital.txt","r");
```

```
fscanf(p,"%d",&x);
```

```

    if(x==0)
        printf("No recorded score in Sports");

    else
        while((ch=getc(q))!=EOF)
            printf("%c",ch);

        printf("\n\n");

        fclose(p);
        fclose(q);
    }

    {
        FILE *p,*q;
        char ch; int x;

        p=fopen("./HIGH SCORE/movies_high.txt","r");
        q=fopen("./NAMES/movies.txt","r");

        fscanf(p,"%d",&x);                                     //Movies
        if(x==0)
            printf("No recorded score in Movies");

        else
            while((ch=getc(q))!=EOF)
                printf("%c",ch);
    }

```



```

printf("\n\n");

fclose(p);
fclose(q);
}

{
    FILE *p,*q;
    char ch; int x;
    p=fopen("./HIGH SCORE/capitals_high.txt","r");
    q=fopen("./NAMES/capital.txt","r");

    fscanf(p,"%d",&x);
    //Countries
    if(x==0)
        printf("No recorded score in Country Capitals");

    else
        while((ch=getc(q))!=EOF)
            printf("%c",ch);

    printf("\n\n");

    fclose(p);
    fclose(q);
}

```

```

{
    FILE *p,*q;
char ch; int x;

    p=fopen("./HIGH SCORE/inventions_high.txt","r");
    q=fopen("./NAMES/invention.txt","r");
//Inventions

    fscanf(p,"%d",&x);
    if(x==0)
printf("No recorded score in Invention-Inventors");

    else

        while((ch=getc(q))!=EOF)
            printf("%c",ch);

printf("\n\n");

    fclose(p);
    fclose(q);
}

{
FILE *p,*q;
    char ch; int x;

        p=fopen("./HIGH SCORE/covid_high.txt","r");

```

```

        q=fopen("./NAMES/covid.txt","r");

        fscanf(p,"%d",&x);
        if(x==0)
            printf("No recorded score in Covid-19");

            //Covid
        else
            while((ch=getc(q))!=EOF)
                printf("%c",ch);

            printf("\n\n");

            fclose(p);
            fclose(q);
    }

    printf("\n\nEnter any key to return to Title Screen: ");
    getch();

    Sleep(500);
    system("CLS");
    main();
}

void sports()
{

```

```

system("CLS");

printf("\n\t\t\t\t\tGET READY!!!\n\n");

Sleep(1000);

system("CLS");

FILE *p,*q; int i;

char
f_name[10][20]={"s1q.txt","s2q.txt","s3q.txt","s4q.txt","s5q.txt","s6q.txt","s7q.
txt","s8q.txt","s9q.txt","s10q.txt"};

char ch,ans;

int count=0;

q=fopen("./ANSWERS/sans.txt","r");

Sleep(2000);

for(i=0;i<10;i++)
{
    p=fopen(f_name[i],"r");

    while((ch=getc(p))!=EOF)
        printf("%c",ch);

    printf("\n\nEnter your option: ");

    scanf(" %c",&ans);

    if(toupper(ans)==getc(q))
    {
        printf("\nWOW! Correct Answer!! :)");

        count++;
    }
}

```

```
        else
            printf("\nOops! Wrong answer :( ");

            Sleep(1000);
            system("CLS");

        fclose(p);
    }
    fclose(q);

    int high;
    q=fopen("./HIGH SCORE/sports_high.txt","r");
    fscanf(q,"%d",&high);

    if(count>high)
    {
        Sleep(500);
        printf("\n\t\tCongratulations %s!! You reached a new High
Score!!",s.name);
        fclose(q);

        q=fopen("./HIGH SCORE/sports_high.txt","w");
        fprintf(q,"%d",count);
        fclose(q);

        q=fopen("./NAMES/sports.txt","w");
```

```

        fprintf(q,"Sports --> %s : %d",s.name,count);
        fclose(q);
    }

    Sleep(2000);
    system("CLS");

    if(count==10)
        printf("\n\t\tCONGRATUALTIONS!! You got all correct!!\n\n\t\t You are
a MASTER MIND indeed!!\n");

    else if(count==9)
        printf("\n\t\tWell tried %s!! You got 9 points.\n",s.name);

    else if(count==0)
        printf("\n\t\tToo bad.. You scored 0 :(\n\t\tBetter luck next time!\n");

    else
        printf("\n\t\tWell played %s!! Your score: %d\n",s.name,count);
}

void movies()
{
    system("CLS");
    printf("\n\t\t\t\t\tGET READY!!!\n\n");
    Sleep(2000);
    system("CLS");
    FILE *p,*q; int i;

```

```

        char
f_name[10][20]={"m1q.txt","m2q.txt","m3q.txt","m4q.txt","m5q.txt","m6q.txt",
,"m7q.txt","m8q.txt","m9q.txt","m10q.txt"};

        char ch,ans;

        int count=0;

        q=fopen("./ANSWERS/mans.txt","r");

        Sleep(2000);

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

                p=fopen(f_name[i],"r");

                while((ch=getc(p))!=EOF)
                printf("%c",ch);

                printf("\n\nEnter your option: ");

                scanf(" %c",&ans);

                if(toupper(ans)==getc(q))
                {

                        printf("\nWOW! Correct Answer!! :)");

                        count++;

                }

                else

                printf("\nOops! Wrong answer :( ");

                Sleep(2000);

```

```

        system("CLS");

        fclose(p);
    }
    fclose(q);

    int high;
    q=fopen("./HIGH SCORE/movies_high.txt","r");
    fscanf(q,"%d",&high);

    if(count>high)
    {
        Sleep(500);
        printf("\n\t\tCongratulations %s!! You reached a new High
Score!!",s.name);
        fclose(q);

        q=fopen("./HIGH SCORE/movies_high.txt","w");
        fprintf(q,"%d",count);
        fclose(q);

        q=fopen("./NAMES/movies.txt","w");
        fprintf(q,"Movies --> %s : %d",s.name,count);
        fclose(q);
    }

    Sleep(2000);

```



```

    system("CLS");

    if(count==10)

        printf("\n\t\tCONGRATUALTIONS!! You got all correct!!\n\n\t\t You are
a MASTER MIND indeed!!\n");

    else if(count==9)

        printf("\n\t\tWell tried %s!! You got 9 points.\n",s.name);

    else if(count==0)

        printf("\n\t\tToo bad.. You scored 0 :(\n\t\tBetter luck next time!\n");

    else

        printf("\n\t\tWell played %s!! Your score: %d\n",s.name,count);
}
void inventions()
{

    system("CLS");

    printf("\n\t\t\t\t\tGET READY!!!\n\n");

    Sleep(2000);

    system("CLS");

    FILE *p,*q; int i;

    char
f_name[10][20]={"i1q.txt","i2q.txt","i3q.txt","i4q.txt","i5q.txt","i6q.txt","i7q.txt
","i8q.txt","i9q.txt","i10q.txt"};

    char ch,ans;

    int count=0;

```

```
q=fopen("./ANSWERS/ians.txt","r");

for(i=0;i<10;i++)
{
    p=fopen(f_name[i],"r");

    while((ch=getc(p))!=EOF)
        printf("%c",ch);

    printf("\n\nEnter your option: ");
    scanf(" %c",&ans);

    if(toupper(ans)==getc(q))
    {
        printf("\nWOW! Correct Answer!! :)");
        count++;
    }

    else
        printf("\nOops! Wrong answer :( ");

    Sleep(2000);
    system("CLS");

    fclose(p);
}
```

```
fclose(q);
```

```
int high;
```

```
q=fopen("./HIGH SCORE/inventions_high.txt","r");
```

```
fscanf(q,"%d",&high);
```

```
if(count>high)
```

```
{
```

```
    Sleep(500);
```

```
    printf("\n\t\tCongratulations %s!! You reached a new High  
Score!!",s.name);
```

```
    fclose(q);
```

```
    q=fopen("./HIGH SCORE/inventions_high.txt","w");
```

```
    fprintf(q,"%d",count);
```

```
    fclose(q);
```

```
    q=fopen("./NAMES/invention.txt","w");
```

```
    fprintf(q,"Invention-Inventors --> %s : %d",s.name,count);
```

```
    fclose(q);
```

```
}
```

```
Sleep(2000);
```

```
system("CLS");
```

```
if(count==10)
```

```
printf("\n\t\tCONGRATUALTIONS!! You got all correct!!\n\n\t\t You are  
a MASTER MIND indeed!!\n");
```

```
else if(count==9)
```

```
printf("\n\t\tWell tried %s!! You got 9 points.\n",s.name);
```

```
else if(count==0)
```

```
printf("\n\tToo bad.. You scored 0 :(\n\tBetter luck next time!\n");
```

```
else
```

```
printf("\n\t\tWell played %s!! Your score: %d\n",s.name,count);
```

```
}
```

```
void capitals()
```

```
{
```

```
system("CLS");
```

```
printf("\n\t\t\t\t\tGET READY!!!\n\n");
```

```
Sleep(1000);
```

```
system("CLS");
```

```
FILE *p,*q; int i;
```

```
char
```

```
f_name[10][20]={"c1q.txt","c2q.txt","c3q.txt","c4q.txt","c5q.txt","c6q.txt","c7q  
.txt","c8q.txt","c9q.txt","c10q.txt"};
```

```
char ch,ans;
```

```
int count=0;
```

```
q=fopen("./ANSWERS/cans.txt","r");
```

```
Sleep(2000);
for(i=0;i<10;i++)
{
    p=fopen(f_name[i],"r");

    while((ch=getc(p))!=EOF)
        printf("%c",ch);

    printf("\n\nEnter your option: ");
    scanf(" %c",&ans);

    if(toupper(ans)==getc(q))
    {
        printf("\nWOW! Correct Answer!! :)");
        count++;
    }

    else
        printf("\nOops! Wrong answer :( ");

    Sleep(2000);
    system("CLS");

    fclose(p);
}
fclose(q);
```

```

int high;

q=fopen("./HIGH SCORE/capitals_high.txt","r");
fscanf(q,"%d",&high);

if(count>high)
{
    Sleep(500);
    printf("\n\t\tCongratulations %s!! You reached a new High
Score!!",s.name);
    fclose(q);

    q=fopen("./HIGH SCORE/capitals_high.txt","w");
    fprintf(q,"%d",count);
    fclose(q);

    q=fopen("./NAMES/capital.txt","w");
    fprintf(q,"Country Capitals --> %s : %d",s.name,count);
    fclose(q);
}

Sleep(2000);
system("CLS");

if(count==10)

```

```
printf("\n\t\tCONGRATUALTIONS!! You got all correct!!\n\n\t\t You are  
a MASTER MIND indeed!!\n");
```

```
else if(count==9)
```

```
printf("\n\t\tWell tried %s!! You got 9 points.\n",s.name);
```

```
else if(count==0)
```

```
printf("\n\tToo bad.. You scored 0 :(\n\tBetter luck next time!\n");
```

```
else
```

```
printf("\n\t\tWell played %s!! Your score: %d\n",s.name,count);
```

```
}
```

```
void covid()
```

```
{
```

```
system("CLS");
```

```
printf("\n\t\t\t\t\tGET READY!!!\n\n");
```

```
Sleep(1000);
```

```
system("CLS");
```

```
FILE *p,*q; int i;
```

```
char
```

```
f_name[10][20]={"a1q.txt","a2q.txt","a3q.txt","a4q.txt","a5q.txt","a6q.txt","a7  
q.txt","a8q.txt","a9q.txt","a10q.txt"};
```

```
char ch,ans;
```

```
int count=0;
```

```
q=fopen("./ANSWERS/aans.txt","r");
```

```
Sleep(2000);
for(i=0;i<10;i++)
{
    p=fopen(f_name[i],"r");

    while((ch=getc(p))!=EOF)
        printf("%c",ch);

    printf("\n\nEnter your option: ");
    scanf(" %c",&ans);

    if(toupper(ans)==getc(q))
    {
        printf("\nWOW! Correct Answer!! :)");
        count++;
    }

    else
        printf("\nOops! Wrong answer :( ");

    Sleep(2000);
    system("CLS");

    fclose(p);
}
fclose(q);
```



```

int high;

q=fopen("./HIGH SCORE/covid_high.txt","r");
fscanf(q,"%d",&high);

if(count>high)
{
    Sleep(500);
    printf("\n\t\tCongratulations %s!! You reached a new High
Score!!",s.name);
    fclose(q);

    q=fopen("./HIGH SCORE/covid_high.txt","w");
    fprintf(q,"%d",count);
    fclose(q);

    q=fopen("./NAMES/covid.txt","w");
    fprintf(q,"Covid-19 --> %s : %d",s.name,count);
    fclose(q);
}

Sleep(2000);
system("CLS");

if(count==10)
    printf("\n\t\tCONGRATUALTIONS!! You got all correct!!\n\n\t\t You are
a MASTER MIND indeed!!\n");

```

```

else if(count==9)
printf("\n\t\tWell tried %s!! You got 9 points.\n",s.name);

else if(count==0)
printf("\n\tToo bad.. You scored 0 :(\n\tBetter luck next time!\n");

else
printf("\n\t\tWell played %s!! Your score: %d\n",s.name,count);
}

void rules()
{
    Sleep(500);
    system("CLS");

    FILE *p;
    char ch;

    p=fopen("Rules.txt","r");

    while((ch=getc(p))!=EOF)
    printf("%c",ch);

    printf("\n\n\t\tEnter any key to return to Title Screen: ");
    getch();

```

```
Sleep(500);  
system("CLS");  
main();  
}  
  
void reset()  
{  
    Sleep(500);  
    system("CLS");  
    char c;  
    getchar();  
    printf("\t\tAre you sure you want to reset the High Scores?(y/n): ");  
  
    scanf("%c",&c);  
    c=tolower(c);  
  
    if(c=='n')  
    {  
        Sleep(1000);  
        system("CLS");  
        main();  
    }  
  
    else if(c=='y')
```

```
{
```

```
FILE *p; char x='0';
```

```
p=fopen("./HIGH SCORE/sports_high.txt","w");
```

```
putc(x,p);
```

```
fclose(p);
```

```
p=fopen("./HIGH SCORE/movies_high.txt","w");
```

```
putc(x,p);
```

```
fclose(p);
```

```
p=fopen("./HIGH SCORE/capitals_high.txt","w");
```

```
putc(x,p);
```

```
fclose(p);
```

```
p=fopen("./HIGH SCORE/inventions_high.txt","w");
```

```
putc(x,p);
```

```
fclose(p);
```

```
p=fopen("./HIGH SCORE/covid_high.txt","w");
```

```
putc(x,p);
```

```
fclose(p);
```

```
p=fopen("./NAMES/sports.txt","w");
```

```
fclose(p);
```

```
p=fopen("./NAMES/movies.txt","w");
```

```
fclose(p);
```

```
p=fopen("./NAMES/invention.txt","w");
```

```
fclose(p);
```

```
p=fopen("./NAMES/covid.txt","w");
```

```
fclose(p);
```

```
p=fopen("./NAMES/capital.txt","w");
```

```
fclose(p);
```

```
Sleep(500);
```

```
printf("\n\t\tScores have been Reset successfully!");
```

```
Sleep(1000);
```

```
system("CLS");
```

```
main();
```

```
}
```

```
else
```

```
{
```

```
printf("\n\n\t\tPlease Enter valid option.");
```

```
Sleep(300);
```

```
reset();
```

```
}
```

}

TEST CASES:

Test case 0:

```

* * * * *
*                                     *
*                                     *
*           WELCOME TO MASTER MIND!   *
*                                     *
*                                     *
*                                     *
*                                     *
*                                     *
* * * * *

MENU:
1) Play Master Mind

2) View High Scores

3) Rules

4) Reset High Scores

5) Exit

Select your option:
```

Enter option 1

Enter your name

Enter choice as 3

Play the quiz on capitals

After playing score will be displayed

```
Well tried shravani!! You got 9 points.
```

```
Press 1 to play again.
```

```
Press 2 to return to Title Screen.
```

```
Press 3 to exit.
```

TEST CASE 1:

Enter option 1

Enter your name

Enter choice as 1

Play the quiz on sports

After playing score will be displayed

```
CONGRATUALTIONS!! You got all correct!!
```

```
You are a MASTER MIND indeed!!
```

```
Press 1 to play again.
```

```
Press 2 to return to Title Screen.
```

```
Press 3 to exit.
```

TEST CASE 2:

Enter option as 5

U will get exit from quiz.

```
Select your option: 5
```

```
Thank You for playing Master Mind!!
```

Select option as 3 then rules are displayed

```
Hi there! Welcome to Master Mind.
```

```
This is an interactive quiz game which tests your knowledge in 5 GK topics:
```

- 1)Sports
- 2)Movies
- 3)Country Capitals
- 4)Inventions and who invented them
- 5)COVID-19

```
You will have 10 questions in total for each topic.
```

```
+1 point for correct answer.
```

```
0 points for wrong answer.
```

```
If you get a high score , Your name will be recorded which can be checked out in "View High Score" option.
```

```
To reset the High scores , Select the "Reset High Scores" Option.
```

```
Thank You for using Master Mind!
```

```
Please provide your valuable feed back :)
```

```
Program developed by:
```

```
Sree Surya Devarakonda and Narsini Shravani
```

```
Enter any key to return to Title Screen:
```

WHAT WE HAVE LEARNED FROM THE PROJECT:

We have learned to use file handling functions and pointers and structures. Learned how to use all different types of functions in a single program. We have learned to write a huge code.

CONCLUSION:

We have completed the “MASTER MIND” project successfully.

FUTURE SCOPE:

Since this project is done using c programming which is basic language for foundation of all other languages therefore it will definitely have good scope in future .This type of projects helps in conducting the MCQ's quiz which makes aware of man handling correction and saves correction time. By attempting this type of quizzes you will get knowledge on different topics.