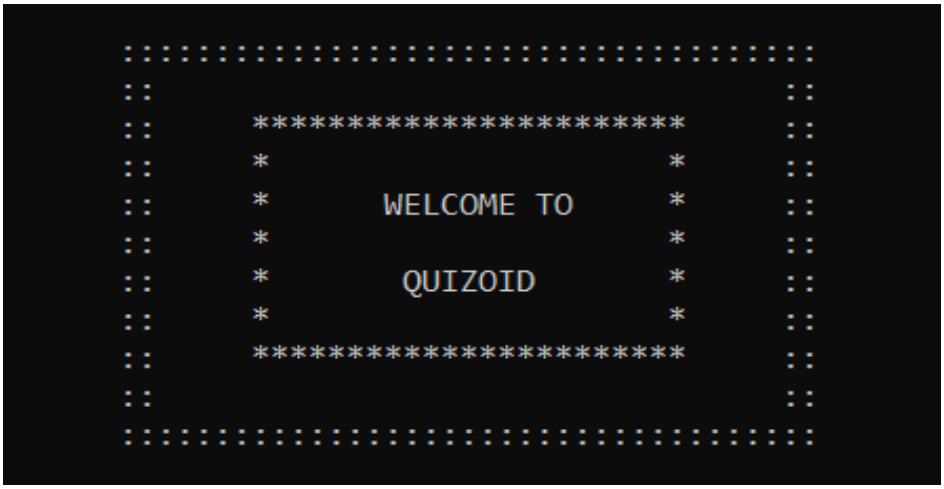
QUIZOID

Quiz on Object Oriented Programming



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Functionality

- Quizoid is a quiz on Object Oriented Programming concepts.
- User needs to Sign In to enroll for the quiz.
- If the user already has an account, enter the Login details.
- The quiz comprises of two sections :
    1. Easy
    2. Hard
- User can check the highscore in 'Highscore' section.
- Read the instructions in the 'Instruction' section.

Header Files Used

```
#include<stdio.h>
#include<string.h>
#include<conio.h>
#include<windows.h>
```

File Handling

File Handling has been extensively used to store the data for quiz and the highscores.

NOTE :

1. **'easy_high_score'**
2. **'hard_high_score'**
3. **'easy_quizoid'**
4. **'hard_quizoid'**

Place all the above files in same folder as the program.

Functions Used

_signup () : This function takes the user details and store them into a file ‘signup_details’.

_login() : If the user already has an account in Quizoid, then this function checks the Login details entered by the user from the data stored in file ‘signup_details’.

_easy_quizoid() : All the functioning of the ‘Easy’ section of quiz occurs in this function

i. Reads the questions and options from the ‘easy_quizoid ’ file and displays them on console.
ii. Ask the user for answer and checks if the answer entered by user is correct or not.

_hard_quizoid() : All the functioning of the ‘Hard’ section of quiz occurs in this function

i. Reads the questions and options from the ‘hard_quizoid ’ file and displays them on console.
ii. Ask the user for answer and checks if the answer entered by user is correct or not.

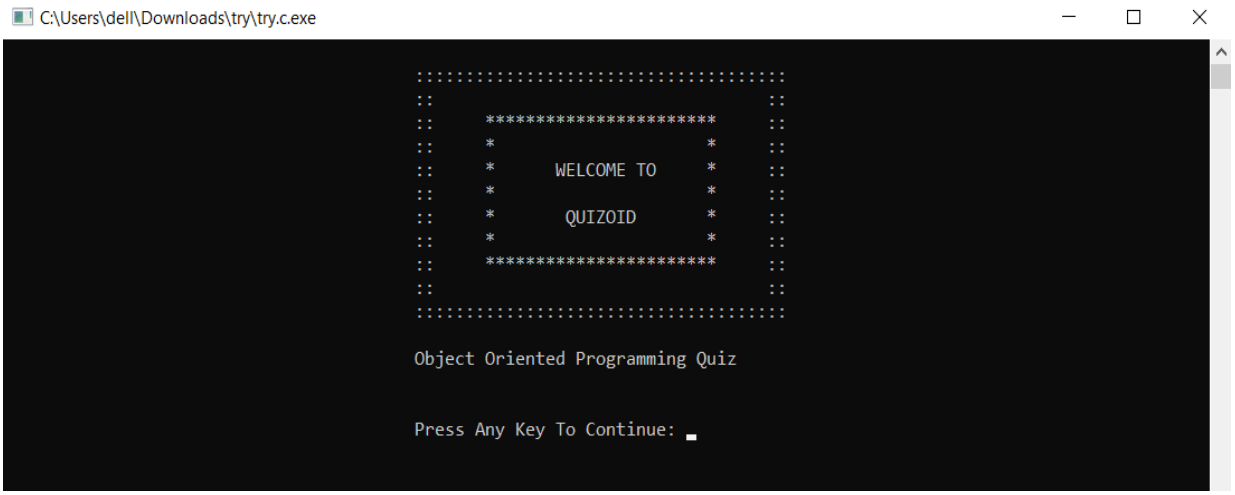
gotoxy() : This function places the cursor at a desired location on the screen

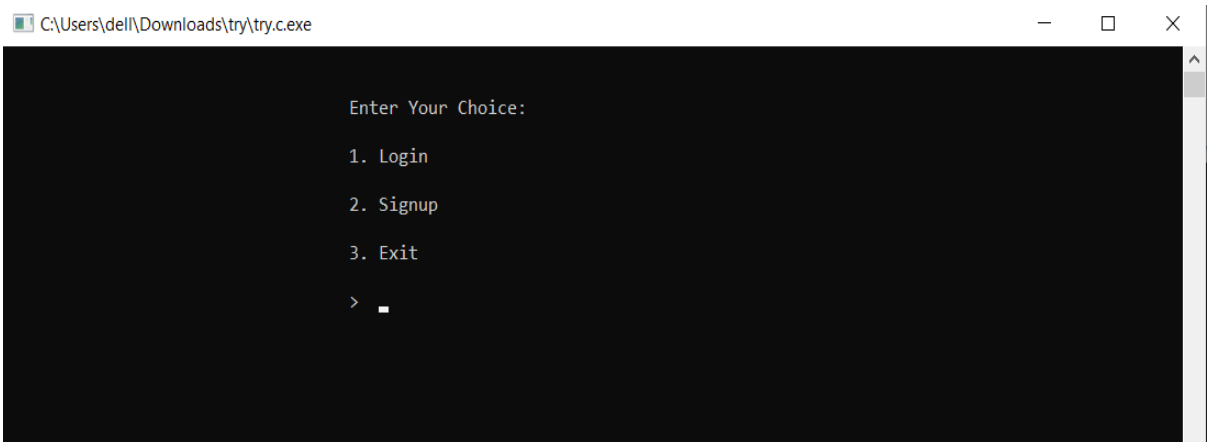
_rules() : Displays the instructions of the quiz.

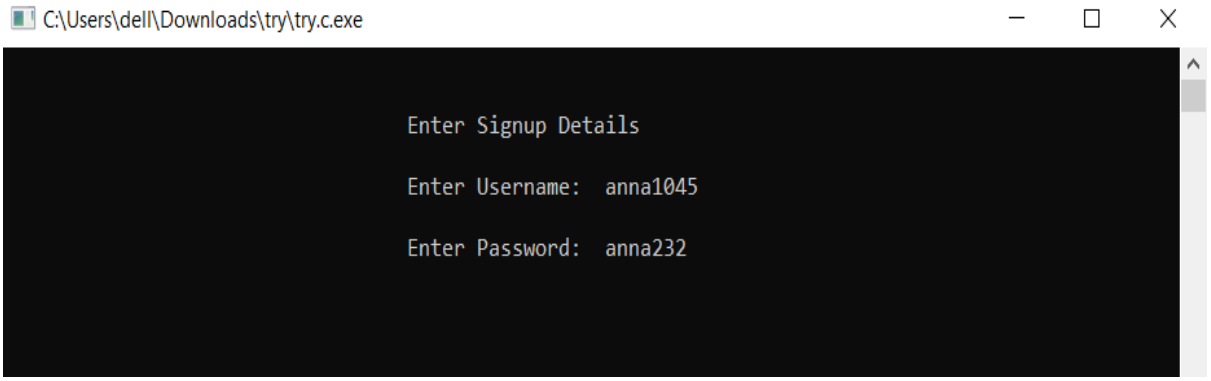
_highscore() : Displays the highscore for both ‘Easy’ and ‘Hard’ quiz

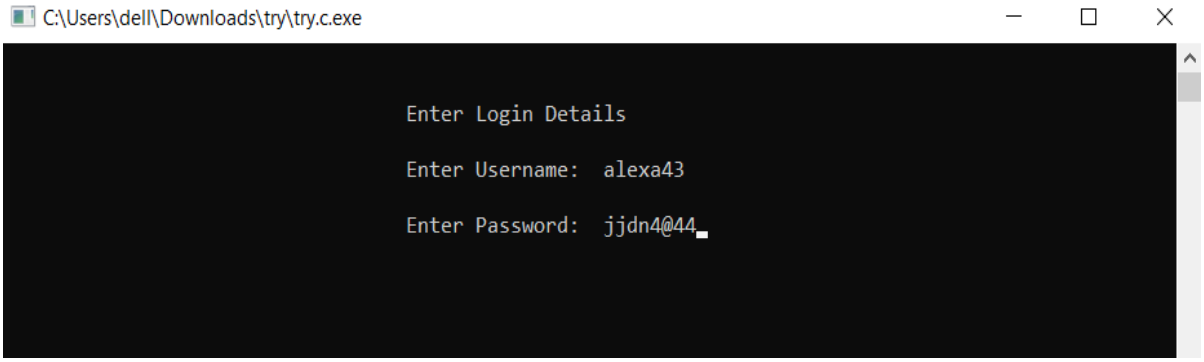
_welcomepage(), _loginsignupmenu(), _mainpage(), _newgame(), _quit_page(), _quit_opt() controls the presentation and allows navigation from one page to another.

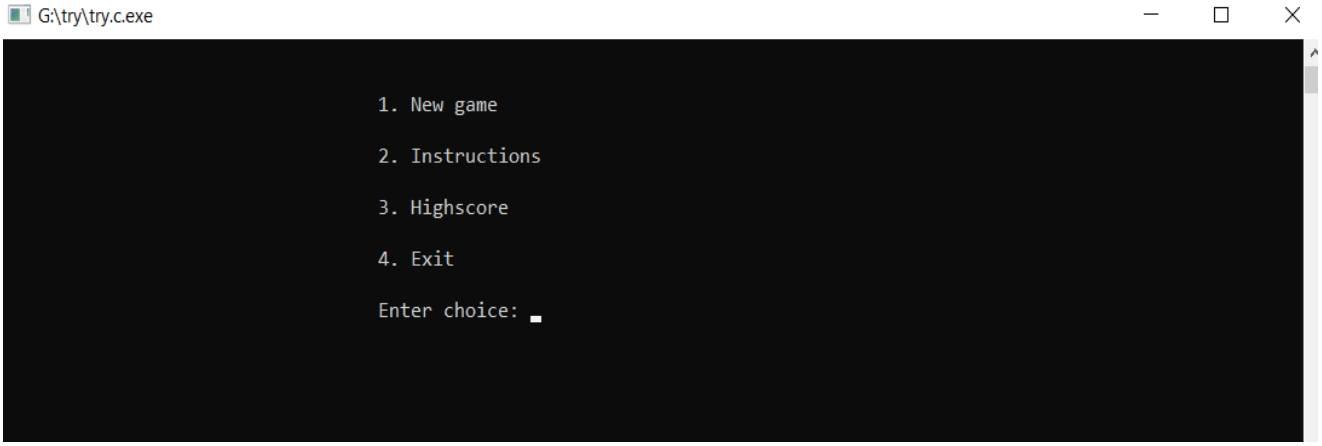
Console

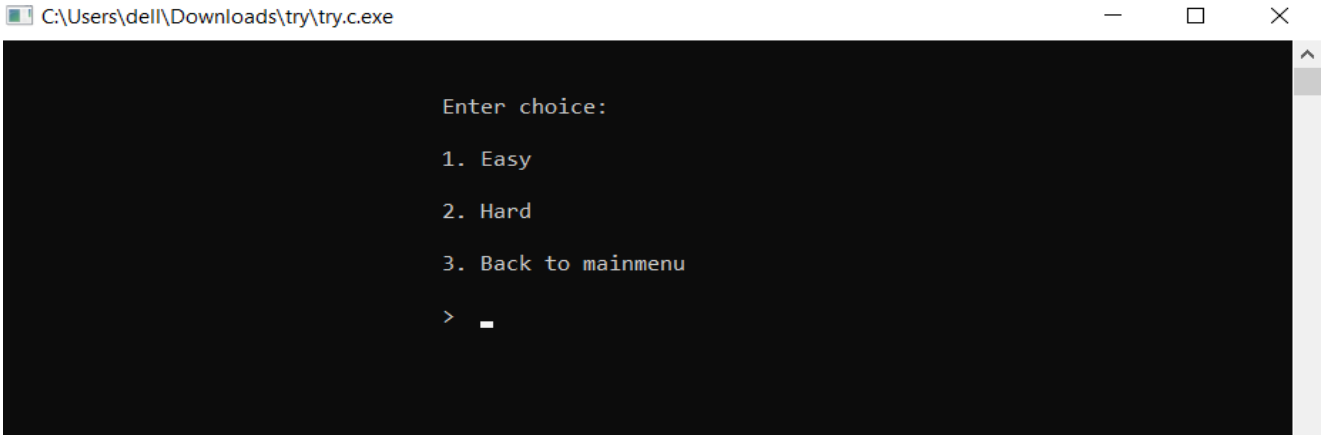







C:\Users\dell\Downloads\try\try.c.exe
Enter Login Details
Enter Username: alexa43
Enter Password: jjdn4@44


G:\try\try.c.exe
1. New game
2. Instructions
3. Highscore
4. Exit
Enter choice:


C:\Users\dell\Downloads\try\try.c.exe
Enter choice:
1. Easy
2. Hard
3. Back to mainmenu
>


G:\try\try.exe
INSTRUCTIONS
1. Quiz comprises of two sections :
i. Easy
ii. Hard
2. There are 20 questions in each section.
3. Correct answer will give 10 points.
4. No negative marking for wrong answer.
5. After beginning the quiz, quit it anytime by just entering -1.
6. You can check the highscore in 'highscore' section.
ALL THE BEST
Press any key for Mainpage


C:\Users\dell\Downloads\try\try.c.exe
****
Highscore:
Easy: 100
Hard: 50
****
Press any key for Mainpage

C:\Users\dell\Downloads\try\try.c.exe

```
1. Which definition best describes an object?
1. Instance of a class
2. Instance of itself
3. Child of a class
4. Overview of a class


Enter answer:  1

Correct!!

Press any key for next question
```

C:\Users\dell\Downloads\try\try.c.exe

```
2. Member function of a class can _____
1. Access all the members of the class
2. Access only Public members of the class
3. Access only the private members of the class
4. Access subclass members


Enter answer:  2

Wrong!! Correct option is 1

Press any key for next question
```

G:\try\try.c.exe

```
_____________________________________

You completed the quiz

Your score is: 40/200

_____________________________________

Press any key to continue
```

```
You Quit the quiz

Your score is: 20

Press any key to continue
```

```
_____________________________________

Wanna play again?(y/n)

_____________________________________

>
```

Code

```
#include<stdio.h>
#include<string.h>
#include<conio.h>
#include<windows.h>

//during login...the 'signup_details' will be copied to these arrays
char array_name[20][50];
char array_password[20][50];

void gotoxy(int, int);
void _welcomepage();
int _loginsignupmenu();
void _signup();
void _login();
void _mainpage();
void _newgame();
void _rules();
void _highscore();
void _easy_quizoid();
void _hard_quizoid();
```

```
void _quit_page();
void _quit_opt();

void gotoxy(int x, int y)
{
   COORD c;
   c.X = x;
   c.Y = y;
   SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), c);
}
void _welcomepage()
{

   printf("\n\t\t                ::::::::::::::::::::::::::::::::::::::::");
   printf("\n\t\t                ::                                    ::");
   printf("\n\t\t                ::    ************************    ::");
   printf("\n\t\t                ::    *                      *    ::");
   printf("\n\t\t                ::    *     WELCOME TO       *    ::");
   printf("\n\t\t                ::    *                      *    ::");
   printf("\n\t\t                ::    *       QUIZOID        *    ::");
   printf("\n\t\t                ::    *                      *    ::");
   printf("\n\t\t                ::    ************************    ::");
   printf("\n\t\t                ::                                    ::");
   printf("\n\t\t                ::::::::::::::::::::::::::::::::::::::::\n\n");
   gotoxy(41,13);
   printf("Press Any Key To Continue: ");
   _getch();
   system("cls");
}
int _loginsignupmenu()
{
   system("cls");
   int choice;
   gotoxy(35, 2);
   printf("Enter Your Choice:");
   gotoxy(35, 4);
```

```
    printf("1. Login");
    gotoxy(35, 6);
    printf("2. Signup");
    gotoxy(35, 8);
    printf("3. Exit");
    gotoxy(35, 10);
    printf("> ");
    fflush(stdin);
    scanf("%d", &choice);
    return choice;
}

void _signup()
{
    FILE *fp1;
    fp1 = fopen("signup_details.txt", "a");
    if(!fp1)
    {
        printf("file 'signup_details.txt' not found\n");
        exit(0);
    }
    char signup_username[30], signup_password[30];
    system("cls");
    gotoxy(35, 2);
    printf("Enter Signup Details\n");
    //enter signup details
    gotoxy(35, 4);
    printf("Enter Username: ");
    fflush(stdin);
    gets(signup_username);
    gotoxy(35, 6);
    printf("Enter Password: ");
    fflush(stdin);
    gets(signup_password);
    //append details of new user to the 'signup_details' file
    fprintf(fp1, "%s %s\n", signup_username, signup_password);
```

```
    gotoxy(35, 8);
    printf("Signup Successful\n");
    //return to main() which will direct to login()
    fclose(fp1);
}

void _login()
{
    char login_username[30], login_password[30];
    FILE *fp1;
    fp1 = fopen("signup_details.txt", "r"); //open in read mode
    if(!fp1)
    {
        printf("file 'signup_details.txt' not found\n");
        exit(0);
    }
    //copy 'signup_details' to array_name and array_password
    int i = 0;
    while(!feof(fp1))
    {
        fscanf(fp1, "%s %s",array_name[i], array_password[i]);
        i++;
    }
    login:  //goto label... if no account matches then show 'Account does not exist' and ask the  user to enter login details again
    //enter login details
    system("cls");
    gotoxy(35, 2);
    printf("Enter Login Details\n");
    gotoxy(35, 4);
    printf("Enter Username:  ");
    fflush(stdin);
    gets(login_username);
    gotoxy(35, 6);
    printf("Enter Password:  ");
    fflush(stdin);
```

```
    gets(login_password);
    //check if login details match with existing accounts
    i = 0;
    int flag = 0;
    while(array_name[i][0] != NULL)
    {
        if( strcmp(array_name[i], login_username) == 0  &&  strcmp(array_password[i], login_password) == 0
)
        {
            printf("Login successful\n");
            flag = 1;
            break;
        }
        i++;
    }
    if(flag == 0)   //if none account matches then ask the  user to enter login details again
    {
        gotoxy(35, 8);
        printf("Account does not exist\n");
        gotoxy(35, 9);
        printf("Press any key to enter login details again: ");
        _getch();
        goto login;
    }
    else
    {
        _mainpage();    //begin the quiz
    }
    fclose(fp1);
}
void _mainpage()
{
    system("cls");
    int choice;
    mainpage:  //goto label
    gotoxy(35, 2);
```

```
    printf("1. New game\n");
    gotoxy(35, 4);
    printf("2. Instructions\n");
    gotoxy(35, 6);
    printf("3. Highscore\n");
    gotoxy(35, 8);
    printf("4. Exit\n");
    gotoxy(35, 10);
    printf("Enter choice: ");
    fflush(stdin);
    scanf("%d", &choice);
    switch(choice)
    {
        case 1:
            _newgame();
            break;
        case 2:
            _rules();
            break;
        case 3:
            _highscore();
            break;
        case 4:
            exit(0);
        default:
            gotoxy(35, 12);
            printf("Wrong Choice :(");
            gotoxy(35, 13);
            printf("Press any key to enter again\n");
            _getch();
            system("cls");
            goto mainpage;
    }
}
void _newgame()
{
```

```
system("cls");
int choice;
newgame:
gotoxy(35, 2);
printf("Enter choice:");
gotoxy(35, 4);
printf("1. Easy\n");
gotoxy(35, 6);
printf("2. Hard\n");
gotoxy(35, 8);
printf("3. Back to mainmenu\n");
fflush(stdin);
gotoxy(35, 10);
printf("> ");
scanf("%d", &choice);
if(choice == 1)
{
   system("cls");
   _quit_opt();
   _easy_quizoid();
}
else if(choice == 2)
{
   system("cls");
   _quit_opt();
   _hard_quizoid();
}
else if(choice == 3)
   _mainpage();
else
{
   gotoxy(35, 12);
   printf("Wrong choice");
   gotoxy(35, 13);
   printf("Press any key to enter again ");
   _getch();
```

```
        system("cls");
        goto newgame;
    }
}
void _easy_quizoid()
{
    system("cls");
    int i, j, k = 0, o = 0;
    FILE *fp1;
    fp1 = fopen("easy_quizoid.txt", "r");
    if(!fp1)
    {
        printf("file 'easy_quizoid' not found\n");
        exit(0);
    }
    //store questions and options in these arrays
    char array_ques[101][300], array_opt[20][5];
    while(fgets(array_ques[k], 299, fp1) != NULL)
    {
        for(i = 0; i < 4; i++)
        {
            k++;
            fgets(array_ques[k], 299, fp1);
        }
        //store answers in array_opt
        fgets(array_opt[o], 4, fp1);
        o++;
        k++;
    }
    fclose(fp1);
    array_ques[k][0] = '\0';
    i = 0;
    k = 0;
    int flag = 0, score = 0, answer;
    while(array_ques[i][0] != '\0')
    {
```

```
//display question and its options
for(j = 0; j < 5; j++)
{
   gotoxy(2, 1+j);
   printf("%s", array_ques[i]);
   i++;
}
//input answer
gotoxy(2, 8);
printf("Enter answer:  ");
fflush(stdin);
scanf("%d", &answer);
//press -1 to exit the quiz
if(answer == -1)
{
   flag = 1;
   break;
}
//check if answer correct and update score
if(answer == (array_opt[k][0]-48))
{
   gotoxy(2, 10);
   printf("Correct!!\n");
   score += 10;
   k++;
}
else
{
   gotoxy(2, 10);
   printf("Wrong!! Correct option is %c\n", array_opt[k][0]);
   k++;
}
gotoxy(2, 12);
printf("Press any key for next question\n");
_getch();
system("cls");
```

```
}
if(flag == 1)
{
   system("cls");
   gotoxy(35, 2);
   printf("You Quit the quiz\n");
   gotoxy(35, 4);
   printf("Your score is: %d\n", score);
   gotoxy(35, 6);
   printf("Press any key to continue  ");
   _getch();
   goto playagain;
}
else
{
   int highScore;
   FILE *h_score;
   h_score = fopen("easy_high_Score.txt","r");
   if(!h_score)
   {
      printf("file 'easy_high_Score.txt' not found\n");
      printf("Please move the file 'easy_high_Score.txt' to the current program folder\n");
      exit(0);
   }
   fscanf(h_score, "%d", &highScore);
   fclose(h_score);
   if(highScore < score)
   {
      gotoxy(40, 2);
      printf("Highscore!!");
      h_score = fopen("high_Score.txt","w");
      if(!h_score)
      {
         printf("file 'high_Score.txt' not found\n");
         printf("Please move the file 'high_Score.txt' to the current program folder\n");
         exit(0);
```

```
        }
        fprintf(h_score, "%d", score);
        fclose(h_score);
    }
    else if(highScore == score)
    {
        gotoxy(40, 2);
        printf("Highscore!!");
    }
    gotoxy(30, 3);
    printf("_____");
    gotoxy(30, 5);
    printf("You completed the quiz");
    gotoxy(30, 7);
    printf("Your score is: %d/200\n", score);
    gotoxy(30, 8);
    printf("_____\n\n");
    //
    gotoxy(30, 10);
    printf("Press any key to continue  ");
    _getch();
}
//playagain?
playagain:
system("cls");
gotoxy(35, 2);
printf("_____");
gotoxy(35, 4);
printf("Wanna play again?(y/n)");
gotoxy(35, 5);
printf("_____");
gotoxy(35, 7);
printf(">  ");
int play_choice;
fflush(stdin);
scanf("%c", &play_choice);
```

```
    if(play_choice == 'y' || play_choice == 'Y')
        _mainpage();
    else if(play_choice == 'n' || play_choice == 'N')
        _quit_page();
    else
    {
        gotoxy(35, 9);
        printf("Wrong choice!!");
        gotoxy(35, 10);
        printf("Press any key to enter choice again  ");
        _getch();
        goto playagain;
    }
}
void _rules()
{
    system("cls");
    gotoxy(35, 2);
    printf("_____");
    gotoxy(50, 4);
    printf("INSTRUCTIONS");
    gotoxy(35, 5);
    printf("_____");
    gotoxy(35, 7);
    printf("1. Quiz comprises of two sections :");
    gotoxy(35, 9);
    printf("\ti.  Easy");
    gotoxy(35, 10);
    printf("\tii. Hard");
    gotoxy(35, 12);
    printf("2. There are 20 questions in each section.");
    gotoxy(35, 14);
    printf("3. Correct answer will give 10 points.");
    gotoxy(35, 16);
    printf("4. No negative marking for wrong answer.");
    gotoxy(35, 18);
```

```
    printf("5. After beginning the quiz, quit it anytime by just entering -1.");
    gotoxy(35, 20);
    printf("6. You can check the highscore in \'highscore\' section.");
    gotoxy(35, 22);
    printf("\t\t\tALL THE BEST");
    gotoxy(35, 24);
    printf("\t\tPress any key for Mainpage");
    _getch();
    _mainpage();
}
void _highscore()
{
    FILE *easy_score, *hard_score;
    int easyHighScore, hardHighScore;
    easy_score = fopen("easy_high_score.txt","r");
    if(!easy_score)
    {
        printf("file 'easy_high_score.txt' not found\n");
        printf("Please move the file 'easy_high_score.txt' to the current program folder\n");
        exit(0);
    }
    fscanf(easy_score, "%d", &easyHighScore);
    fclose(easy_score);
    // retrieve highscore for hard game
    hard_score = fopen("hard_high_score.txt","r");
    if(!hard_score)
    {
        printf("file 'hard_high_score.txt' not found\n");
        printf("Please move the file 'hard_high_score.txt' to the current program folder\n");
        exit(0);
    }
    fscanf(hard_score, "%d", &hardHighScore);
    fclose(hard_score);
    //print highscore
    system("cls");
    gotoxy(35, 2);
```

```
    printf("_____");
    gotoxy(35, 4);
    printf("*************************************");
    gotoxy(35, 5);
    printf("_____");
    gotoxy(45, 7);
    printf("Highscore:");
    gotoxy(45, 9);
    printf("Easy:  %d", easyHighScore);
    gotoxy(45, 11);
    printf("Hard:  %d", hardHighScore);
    gotoxy(35, 12);
    printf("_____");
    gotoxy(35, 14);
    printf("*************************************");
    gotoxy(35, 15);
    printf("_____");
    gotoxy(40, 18);
    printf("Press any key for Mainpage  ");
    _getch();
    _mainpage();
}
void _hard_quizoid()
{
    system("cls");
    int i, j, k = 0, o = 0;
    FILE *fp1;
    fp1 = fopen("hard_quizoid.txt", "r");
    if(!fp1)
    {
        printf("file 'hard_quizoid' not found\n");
        exit(0);
    }
    //store questions and options in these arrays
    char array_ques[101][300], array_opt[20][5];
    while(fgets(array_ques[k], 299, fp1) != NULL)
```

```
{
   for(i = 0; i < 4; i++)
   {
      k++;
      fgets(array_ques[k], 299, fp1);
   }
   //store answers in array_opt
   fgets(array_opt[o], 4, fp1);
   o++;
   k++;
}
fclose(fp1);
array_ques[k][0] = '\0';
i = 0;
k = 0;
int flag = 0, score = 0, answer;
while(array_ques[i][0] != '\0')
{
   //display question and its options
   for(j = 0; j < 5; j++)
   {
      gotoxy(2, 1+j);
      printf("%s", array_ques[i]);
      i++;
   }
   //input answer
   gotoxy(2, 8);
   printf("Enter answer:  ");
   fflush(stdin);
   scanf("%d", &answer);
   //press -1 to exit the quiz
   if(answer == -1)
   {
      flag = 1;
      break;
   }
```

```
    //check if answer correct and update score
    if(answer == (array_opt[k][0]-48))
    {
        gotoxy(2, 10);
        printf("Correct!!\n");
        score += 10;
        k++;
    }
    else
    {
        gotoxy(2, 10);
        printf("Wrong!! Correct option is %c\n", array_opt[k][0]);
        k++;
    }
    gotoxy(2, 12);
    printf("Press any key for next question\n");
    _getch();
    system("cls");
}
if(flag == 1)
{
    system("cls");
    gotoxy(35, 2);
    printf("You Quit the quiz\n");
    gotoxy(35, 4);
    printf("Your score is: %d\n", score);
    gotoxy(35, 6);
    printf("Press any key to continue  ");
    _getch();
    goto playagain;
}
else
{
    int highScore;
    FILE *h_score;
    h_score = fopen("hard_high_score.txt","r");
```

```
if(!h_score)
{
   printf("file 'hard_high_score.txt' not found\n");
   printf("Please move the file 'hard_high_score.txt' to the current program folder\n");
   exit(0);
}
fscanf(h_score, "%d", &highScore);
fclose(h_score);
if(highScore < score)
{
   gotoxy(40, 2);
   printf("Highscore!!");
   h_score = fopen("hard_high_score.txt","w");
   if(!h_score)
   {
      printf("file 'hard_high_score.txt' not found\n");
      printf("Please move the file 'hard_high_score.txt' to the current program folder\n");
      exit(0);
   }
   fprintf(h_score, "%d", score);
   fclose(h_score);
}
else if(highScore == score)
{
   gotoxy(40, 2);
   printf("Highscore!!");
}
gotoxy(30, 3);
printf("_____");
gotoxy(30, 5);
printf("You completed the quiz");
gotoxy(30, 7);
printf("Your score is: %d/200\n", score);
gotoxy(30, 8);
printf("_____");
gotoxy(30, 10);
```

```
        printf("Press any key to continue  ");
        _getch();
    }
    //playagain?
    playagain:
    system("cls");
    gotoxy(35, 2);
    printf("_____");
    gotoxy(35, 4);
    printf("Wanna play again?(y/n)");
    gotoxy(35, 5);
    printf("_____");
    gotoxy(35, 7);
    printf(">  ");
    int play_choice;
    fflush(stdin);
    scanf("%c", &play_choice);
    if(play_choice == 'y' || play_choice == 'Y')
        _mainpage();
    else if(play_choice == 'n' || play_choice == 'N')
        _quit_page();
    else
    {
        gotoxy(35, 9);
        printf("Wrong choice!!");
        gotoxy(35, 10);
        printf("Press any key to enter choice again  ");
        _getch();
        goto playagain;
    }
}

void _quit_opt()
{
    gotoxy(35, 2);
    printf("After the quiz begins");
```

```
    gotoxy(35, 4);
    printf("Press -1 to quit the quiz anytime\n");
    gotoxy(35, 6);
    printf("Now press any key to begin the quiz  ");
    gotoxy(35, 8);
    printf("All The Best :)  ");
    _getch();
    system("cls");
}

void _quit_page()
{
    system("cls");
    printf("\n\t\t                ::::::::::::::::::::::::::::::::::::::::");
    printf("\n\t\t                ::                                    ::");
    printf("\n\t\t                ::    ************************    ::");
    printf("\n\t\t                ::    *                  *    ::");
    printf("\n\t\t                ::    *                  *    ::");
    printf("\n\t\t                ::    *     THANK YOU    *    ::");
    printf("\n\t\t                ::    *                  *    ::");
    printf("\n\t\t                ::    *                  *    ::");
    printf("\n\t\t                ::    ************************    ::");
    printf("\n\t\t                ::                                    ::");
    printf("\n\t\t                ::::::::::::::::::::::::::::::::::::::::\n\n");
    printf("\n\n\n\n");
}
int main()
{
    //this is the welcome page
    _welcomepage();
    choice:  //goto label... if user enters incorrect choice then the process of mainmenu will repeat
    switch(_loginsignupmenu())
    {
    case 1:
        _login();
        break;
```

```
    case 2:
        _signup();
        _login();   // after signup now login to begin the quiz
        break;
    case 3:
        exit(0);
    default:
        gotoxy(35, 12);
        printf("Wrong Choice...Press Enter For Mainmenu\n");
        _getch();
        goto choice;
    }
    return 0;
}
```

THANK YOU