

Source Code

```
//----- MAIN.CPP -----//
```

```
/*
/* Name :-Divesh Uttamchandani
/* Class :-XII A
/* Session :-2014-2015
/*
/* Computer Science Project
/* Advance English Dictionary
/*
```

```
/* Give Path of the Files Here */
#define bgi_loc "g:/bgi"
#define my_graphics "g:/project/XII/include/graph.h"
#define fonts_styles "g:/project/XII/include/styles.h"
#define classes "g:/project/XII/include/classes.cpp"
#define functions "g:/project/XII/include/function.h"

#define INDEX "g:/project/XII/files/m_index.dic"
#define DEFINATION "g:/project/XII/files/m_def.dic"
#define ABBREVIATIONS "g:/project/XII/files/abbr.txt"
#define HOWTOUSE "g:/project/XII/files/use.txt"
/*
```

```
//////////Variable To Avoid Blinking For The First Time//////////
int no_of_times=0;
//////////
```

```
////////// Including Header Files //////////
#include <fstream.h>
#include <ctype.h>
#include <conio.h>
#include <graphics.h>
#include <process.h>
#include <dos.h>
#include <string.h>
#include <stdio.h>
#include classes
#include fonts_styles
#include my_graphics
#include functions
//////////
```

```

//*****Void Main()*****//
void main()
{
    intro();
    erase_name();

    do
    {
        int choice=0;
        main_menu(choice);//gets the choice from the user
                        //1)Search A Word
                        //2)Add A Word
                        //3)Abbreviations
                        //4)How To Use
                        //5)Exit
        FULLSCREEN;
        txtbkcolor;
        msgcolor;
        clrscr();

        switch(choice)
        {
            case 1: search();
                    break;

            case 2: add();
                    break;

            case 3: abbreviations();
                    break;

            case 4: how_to_use();
                    break;

            case 5: break;
        }

        if(choice==5)
            break;

        FULLSCREEN; //clear all the screens
        clrscr();

        cout<<"\n\n\n\n\n\n\n\n\n\n\n";
        cout<<"\t\t\t Press Y to Continue "<<char(174)<<"-";
        cout<<"\n\t\t\t Press Any Other Key To Exit -"<<char(175);
        no_of_times++;
    }while(toupper(getche())=='Y');

    end();
}
//*****End Of Main*****//

```

```
//-----CLASSESS.CPP-----//

#define WORDMAX    80
#define DEFMAX     6000

//////////Declaration and Definition of class index_word//////////
class index_word
{
    char    w[WORDMAX];
    char linked_w[WORDMAX];
    unsigned int wordno;                                //wno of the linked word

public:

    index_word()
    {
        strcpy(w,"NULL");
        strcpy(linked_w,"NULL");
        wordno=0;
    }

    ~index_word()
    {
        ;
    }

    void add(char w1[], char linked_w1[],unsigned int code)
    {
        strcpy(w,w1);
        strcpy(linked_w,linked_w1);
        wordno=code;
    }

    void display()
    {
        cout<<"\n\nWORD\t"<<w;
        cout<<"\nLinked word\t"<<linked_w;
        cout<<"\nCode\t"<<wordno;
    }

    char *getword()
    {
        return w;
    }

    unsigned int retno()
    {
        return wordno;
    }
};
//////////
```

/////////////////////////////////Declaration and Definition of class definition/////////////////////////////////

class definition

```
{
    unsigned int wordno;
    char    w[WORDMAX];
    char    d[DEFMAX];
public:
    defination()
    {
        strcpy(w,"NULL");
        strcpy(d,"NULL");
        wordno=0;
    }
}
```

~defination()

```
{
    ;
}
```

void add(unsigned int wno,char *w1,char *d1)

```
{
    strcpy(w,w1);
    strcpy(d,d1);
    wordno=wno;
}
```

void display()

```
{
    int i=0;
    cout<<"\n";//<<"WORD\t";
    puts(w);
    cout<<"\n";//Defination\n";
    while(d[i]!='\0')
    {
        if(i%45==0 && i!=0)
        {
            if(d[i-1]!=' ' && d[i]!=' ')
                cout<<"-";
            cout<<"\n";
        }
    }
```

if(i%(45*15)==0 && i!=0)

```
{
    cout<<"\nPress Any Key To Scroll";
    getch();
    clrscr();
}
cout<<d[i];
i++;
}
}
};
```

```
//-----STYLES.H-----//

#define INPUTHEADER      window(1,22,48,22)
#define INPUTWINDOW      window(1,23,48,25)

#define WORDLISTWINDOW   window(50,2,80,21)
#define WORDHEADER       window(50,1,80,1)

#define OUTPUTHEADER     window(1,1,48,1)
#define OUTPUTWINDOW     window(1,2,48,21)

#define USERHEADER       window(50,22,80,22)
#define USERNOTE         window(50,23,80,25)

#define FULLSCREEN        window(1,1,80,25);

#define PARTITION         window(49,1,49,25);

//fonts and colors

/***** Background Color *****/
#define bkcolor           setbkcolor(15)
/*****

/***** colors and fonts for main menu *****/
#define erasercolor       setcolor(15)    //same as bkcolor

#define topiccolor        setcolor(4)
#define topicstyle        settextstyle(6,0,6)

#define namecolor_intro   setcolor(2)
#define namecolor_end     setcolor(3)
#define namestyle         settextstyle(6,0,4)
#define th_style          settextstyle(6,0,1)

#define mainmenucolor     setcolor(7)
#define mainmenustyle     settextstyle(6,0,4)
#define menumsgcolor      setcolor(1)
#define menumsgstyle      settextstyle(6,0,3)

#define optionscolor      setcolor(13)
#define optionsstyle      settextstyle(6,0,3)

#define choiceboxcolor    setcolor(4)

#define abtstyle_topic    settextstyle(6,0,6)
#define abtcolor_topic    setcolor(4)
#define abtstyle_body     settextstyle(6,0,4)
#define abtcolor_body     setcolor(3)
#define abtstyle_msg      settextstyle(6,0,2)
#define abtcolor_msg      setcolor(4)
```

```
#define thankscolor          setcolor(5)
#define thanksstyle          settextstyle(6,0,6)
/*****

/*****Textbackground etc. for main *****/
#define txtbkcolor          textbackground(2)
#define msgcolor            textcolor(1)
#define iocolor              textcolor(4)
#define errcolor             textcolor(4)
/*****/
```

Please Turn Over.....

```
//----- GRAPH.H -----//
//Defining Co-ordinates Of mid points
#define xmax getmaxx()
#define ymax getmaxy()
#define midx xmax/2
#define midy ymax/2

/***** Declaration of Functions *****/
////////////////////////////////function to initialize graphics////////////////////////////////
void graphics_initialize();
////////////////////////////////Functions For Introduction Animation////////////////////////////////
void intro();
    void erase_name();
//////////////////////////////// Functions For Printing Menu And Getting Choice //////////////////////////////////
void main_menu(int &choice);
    void print_menu();
    int get_choice();
//////////////////////////////// Function For End Thanks Animation //////////////////////////////////
void end();
//////////////////////////////// Function Which Helps In Key Controlled Delay //////////////////////////////////
void mydelay(int time, int &flag);
/////////////////////////////////
/***** Definition of Functions *****/
void graphics_initialize()
{
    /* request auto detection */
    int gdriver = DETECT, gmode, errorcode;

    /* initialize graphics and local variables */
    initgraph(&gdriver, &gmode, bgi_loc);

    /* read result of initialization */
    errorcode = graphresult();
    /* an error occurred */
    if (errorcode != grOk)
    {
        cout<<"Graphics error: %s\n"<<grapherrormsg(errorcode);
        cout<<"Press any key to halt:";
        getch();
        exit(1);
    }

    bkcolor;
}

//the function prints topic and my name.
//it uses kbhit for pausing and skipping the animation
//if user presses any key (except enter) it gets into the statement if(kbhit)
//and then getch(). to mimic pause play
//it breaks out of the animation loop if user presses enter
```



```

void intro()
{
    graphics_initialize();
    int x = xmax;
    int y = ymax;
    int i,j;

    for(i=x, j=0; i>40; i--,j++)
    {
        delay(20);

        erasercolor;
        bar(x,y,0,0);

        topicstyle;
        topiccolor;
        outtextxy(i,10,"Advance English Dictionary");

        if(j<=200)
        {
            namestyle;
            namecolor_intro;
            outtextxy(j,350,"Made By :-Divesh Uttamchandani");
            outtextxy(j,400,"Class    :-XII -A");

            th_style;
            outtextxy(j+179,397,"th");
        }

        if(j>=200)
        {
            y=80;
        }

        if(kbhit()!=0)
        {
            if(getch()==13)
                break;
            else
                getch();
        }
    }

    cleardevice();
    topicstyle;
    topiccolor;
    outtextxy(40,10,"Advance English Dictionary");

    namestyle;
    namecolor_intro;
    outtextxy(200,350,"Made By :-Divesh Uttamchandani");
    outtextxy(200,400,"Class    :-XII -A");
}

```

```

th_style;
outtextxy(200+179,397,"th");
delay(500);
}

//it erases my name from the screen
//skips animation if any key is pressed using my delay
void erase_name()
{
    //graphics initialized in intro

    int flag=0; //for mydelay
    mydelay(500,flag);

    erasercolor;
    for(int i=195;i<=xmax;i++)
    {
        bar(0,300,i,ymax);
        mydelay(5,flag);
    }
    cleardevice();
    // closegraph(); //transferred to main menu
}

//it prints the main menu. and gets choice from the user using
//functions print_menu() and get_choice()
//NOTE:-graphics are initialized in this function only if the user is
//coming back to this menu 2nd and later times
//else the graphics are brought forward from intro.
//(As i Don't Want The Screen To Blink due to closegraph)
//for the above purpose it uses global variable no_of_times
void main_menu(int &choice)
{
    if(no_of_times>=1) //As i Don't Want The Screen To Blink due to
        graphics_initialize(); //closegraph

    topicstyle;
    topiccolor;
    outtextxy(40,10,"Advance English Dictionary");

    print_menu();

    choice=get_choice();

    cleardevice();
    closegraph();
}

```

```

//the function prints the menu
void print_menu()
{
int flag=0;                                     //for mydelay

mydelay(500,flag);

mainmenustyle;
mainmenucolor;
outtextxy(250,120,"Main Menu");

mydelay(700,flag);

optionsstyle;
optionscolor;

outtextxy(230,180,"1) Search A Word");

mydelay(700,flag);
outtextxy(230,220,"2) Add A Word");

mydelay(700,flag);
outtextxy(230,260,"3) Abbreviations");

mydelay(700,flag);
outtextxy(230,300,"4) How To Use");

mydelay(700,flag);
outtextxy(230,340,"5) Exit");

menumsgcolor;
menumsgstyle;
delay(20);
outtextxy(140,410,"Use Arrow Keys To Move The Selection");

delay(20);
outtextxy(220,440,"Press \'Enter\' To Enter");
}

//function helps in getting user's choice using arrow keys
//it draws and changes the selection box(rectangle) at required position.
//it returns choice whose value is from 1 to 5
//1) Search A Word
//2) Add A Word
//3) Abbreviations
//4) How to Use
//5) Exit
int get_choice()
{
//graphics inherited from main_menu()

```

```

delay(100);
int choice=1;
int y1=180;
int y2=217;
int ch=0;

do
{
choiceboxcolor;
rectangle(200,y1,440,y2);                                     //print the box

ch=getch();

switch(ch)
{
    case 72:  //down arrow key
        erasercolor;
        rectangle(200,y1,440,y2);                             //erase the previous rectangle
        y1-=40;
        y2-=40;
        choice--;
        break;

    case 80:  //up arrow key
        erasercolor;
        rectangle(200,y1,440,y2);                             //erase the previous rectangle
        y1+=40;
        y2+=40;
        choice++;
        break;
}

if(choice<1)                                                    //if less than search a word
{
y1+=40,y2+=40;                                                //since y1 & y2 also get decrement in switch by 40
choice++;
}

if(choice>5)                                                    //if greater than exit
{
y1-=40,y2-=40;                                                //since y1 & y2 also get increment in switch by 40
choice--;
}
}while(ch!=13);

return choice;
}

//thankyou note similar to intro
void end()
{
    graphics_initialize();
}

```

```

int x = xmax;
int y = ymax;

int i,j;

for(i=x, j=0; i>210; i--,j++)
{
    delay(20);

    erasercolor;
    bar(x,y,0,0);

    thanksstyle;
    thankscolor;
    outtextxy(i,100,"Thank You");

    if(j<=100)
    {
        namestyle;
        namecolor_end;
        outtextxy(j,350,"Made By :-Divesh Uttamchandani");
        outtextxy(j,400,"Class    :-XII -A");

        th_style;
        outtextxy(j+179,397,"th");
    }

    if(j>=100)
    {
        y=250;
    }

    if(kbhit()!=0)
    {
        if(getch()==13)
            break;
        else
            getch();
    }
}

cleardevice();
thanksstyle;
thankscolor;
outtextxy(210,100,"Thank You");

namestyle;
namecolor_end;
outtextxy(100,350,"Made By :-Divesh Uttamchandani");
outtextxy(100,400,"Class    :-XII -A");

th_style;
outtextxy(100+179,397,"th");

```

```

/* clean up */
for(i=0;i<3000;i++)
{
if( !(kbhit()) )
    delay(1);
else
    break;
}

cleardevice();
closegraph();
exit(0);
}

//mydelay function holds responsible for key based delay
//it only delays if parameter flag is 0 i.e no key is pressed untill now
//if key is pressed in b/w it changes the value of flag to 1 (flag is called
//by ref. here)and breaks of the loop
//next time when it is invoked as it changed the value of flag to 1 it doesn't
//enters the loop untill flag given is again turned to 0
void mydelay(int time,int &flag)
{
if(flag==0)
{
    for(int i=0;i<=time;i++)
    {
        if(kbhit()!=0)
        {
            getch();
            flag=1;
            break;
        }
        else
            delay(1);
    }
}
}
}
/*****/

```

```
//----- FUNCTION.H -----//

#define ESC 27      //define escape key

/***** Declaration of Functions *****/
int my_strcmpi(char *userword,char *indexword);
void search();      //gets word from user and serches for it and calls disp def
unsigned int search(char *&A);    //search funtion overloaded this searches for A and returns its-
                                   //-wordno
void disp_def(unsigned int wordno);    //displays defination

void add();          //add a word to the dictionary

void abbreviations();    //display list of abbreviations

void how_to_use();      //displays how to use the dictionary
/*****/

/***** Definition of Functions *****/
////////////////////////////////////
//function that matches userword and indexword
int my_strcmpi(char *userword,char *indexword)
{
    //////////correct A////////
    if(indexword[0]=='-'||indexword[0]=='\\')
        indexword++;
    if(indexword[0]=='-'||indexword[0]=='\\')
        indexword++;
    //////////
    int s=strlen(userword);
    return strncmpi(userword,indexword,s);
}
////////////////////////////////////

////////////////////////////////////
//function to display defination
void disp_def(unsigned int wordno)
{
    OUTPUTWINDOW;
    clrscr();
    long long unsigned int t;
    defination d;

    ifstream fin(DEFINATION,ios::binary);

    if(!fin)
        cout<<"error";
    else
    {
        fin.seekg(0);
    }
}

```

```

t=(wordno-1)*(long long unsigned)(sizeof(d));
fin.seekg(t,ios::beg);
fin.read((char*)&d,sizeof(d));
d.display();
}
getch();
fin.close();
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
//function to search a word
void search()
{
    char *A,*B;
    unsigned int wlist[20];
    int i=1,n,temp;
    clrscr();

PARTITION;
    clrscr();
    for(temp=1;temp<=25;temp++)
    {
        putch('|');
    }
    //Input Word From User
    INPUTHEADER;
    puts("-----Input Window-----");

    OUTPUTHEADER;
    clrscr();
    puts("-----Defination-----");

    //Search Results
    WORDHEADER;
    puts("-----Search Results-----");

    USERHEADER;
    puts("-----Note To User-----");

    USERNOTE;
    clrscr();
    puts("Press Any Key To Scroll");
    putch(13);
    puts("Press (Enter) to select list");

    INPUTWINDOW;
    textattr(1+128);
    txtbkcolor;
    clrscr();
    puts("Enter Word to be Searched for:");
    gets(A);

```



```

msgcolor;
clrscr();
puts("Enter Word to be Searched for:");
putch(13);
puts(A);

ifstream fin(INDEX,ios::binary);

if(!fin)
cout<<"error";

else
{
fin.seekg(0);
index_word I;
WORDLISTWINDOW;
clrscr();

puts(" ");
putch(13);
cout<<"Searching...";

while(fin.read((char*)&I,sizeof(I)))
{
B=I.getword();

if(my_strcmpi(A,B)==0)
{
//20 words at a time
if(i==1)
clrscr();
if(i>20)
{
char ch;
ch=getch();

if(ch==13)
break;
else
{
clrscr();
i=1;
}
}
}

wlist[i-1]=I.retno();

//Truncate long words
if(strlen(B)>23)
{
B[20]=B[21]=B[22]='.';
B[23]='\0';
}
}

```

```

        printf(" %d)\t",i);
        puts(B);
        if(i<20)
            putchar(13);
            i++;
    }
}
if(i>1)
{
    USERNOTE;
    clrscr();

    INPUTWINDOW;
    do
    {
        textattr(1+128);
        txtbkcolor;
        clrscr();
        puts("Enter Choice(Word No.)");
        putchar(13);
        cin>>n;

        msgcolor;
        clrscr();
        puts("Enter Choice(Word No.)");
        putchar(13);
        printf("%d",n);

        if(!(n>=1 && n<=i-1))
        {
            textattr(1+128);
            txtbkcolor;
            clrscr();
            cout<<"Invalid! Enter Again!";
            getch();
        }
    }while(!(n>=1 && n<=i-1));
    fin.close();

    OUTPUTWINDOW;
    disp_def(wlist[n-1]);
}
else
{
    WORDLISTWINDOW;
    clrscr();
    cout<<"No Match Found";
    getch();
}
}

```

```
//search function overloaded returns the word code of A
unsigned int search(char *&A)
{
    char *B;
    unsigned int wlist[20];
    char *lwlist[20];
    int i=1,n,temp;

    clrscr();

PARTITION;
    clrscr();
    for(temp=1;temp<=25;temp++)
    {
        putch('|');
    }
//Input Word From User
INPUTHEADER;
puts("-----Input Window-----");

OUTPUTHEADER;
clrscr();
puts("-----Defination-----");

//Search Results
WORDHEADER;
puts("-----Search Results-----");

USERHEADER;
puts("-----Note To User-----");

USERNOTE;
clrscr();
puts("Press Any Key To Scroll");
putch(13);
puts("Press (Enter) to select list");

INPUTWINDOW;
puts("Enter Word to be Searched for:");
putch(13);
puts(A);

ifstream fin(INDEX,ios::binary);

if(!fin)
cout<<"error";
```

```

else
{
fin.seekg(0);
index_word I;
WORDLISTWINDOW;
clrscr();

puts(" ");
putch(13);
cout<<"Searching...";

while(fin.read((char*)&I,sizeof(I)))
{
B=I.getword();

if(my_strcmpi(A,B)==0)
{
//20 words at a time
if(i==1)
clrscr();
if(i>20)
{
char ch;
ch=getch();

if(ch==13)
break;
else
{
clrscr();
i=1;
}
}
}

wlist[i-1]=I.retno();
strcpy(lwlist[i-1],I.getword());

//Truncate long words
if(strlen(B)>23)
{
B[20]=B[21]=B[22]='.';
B[23]='\0';
}

printf(" %d)\t",i);
puts(B);
if(i<20)
putch(13);

i++;
}
}

```

```

if(i>1)
{
    USERNOTE;
    clrscr();

    INPUTWINDOW;
    do
    {
        textattr(1+128);
        txtbkcolor;
        clrscr();
        puts("Enter Choice(Word No.)");
        putch(13);
        cin>>n;

        msgcolor;
        clrscr();
        puts("Enter Choice(Word No.)");
        putch(13);
        printf("%d",n);

        if(!(n>=1 && n<=i-1))
        {
            textattr(1+128);
            txtbkcolor;
            clrscr();
            cout<<"Invalid! Press Any Key To Enter Again!";
            cout<<"\nPress Esc to Exit";
            char ch=getch();
            if(ch==ESC)
            {
                txtbkcolor;
                msgcolor;
                clrscr();
                return 0;
            }
        }
    }while(!(n>=1 && n<=i-1));
    fin.close();

    OUTPUTWINDOW;

    disp_def(wlist[n-1]);
    strcpy(A,lwlist[n-1]);
    return wlist[n-1];
}

```

```
else
{
WORDLISTWINDOW;
clrscr();
cout<<"No Match Found";
getch();
return 0;
}
}
}
}
//////////////////////////////////////////////////////////////////////////////////////////////////////////////////
//////////////////////////////////////////////////////////////////////////////////////////////////////////////////
//function to add a word
void add()
{
char *w,*linked_w,*def;
unsigned int code=0;
int flag=0;

w=new char[WORDMAX];
linked_w=new char[WORDMAX];
def=new char[DEFMAX];

index_word I;
defination D;

cout<<"Add A Word To The Dictionary\n";
cout<<"\nEnter Word\t";    gets(w);

cout<<"\nDo You Want To Link It To An Already Existing Word?\t(Y/N)\t";

if(toupper(getche())=='Y')
{
cout<<"\nEnter Linked Word\t";
gets(linked_w);
cout<<"\nNow You Are Being Redirected To The Search Window...";
cout<<"\nPress Any Key";
getch();
code=search(linked_w);

FULLSCREEN;
clrscr();
}

if(code==0)
{
clrscr();
cout<<"\nYou didn't Link It To A Word";
cout<<"\nEnter Defination Of The Word\n";
cout<<"\nPress Any Key To Continue\nPress Esc To Exit\t";
char ch=getch();
```

```

if(ch==ESC)
{
clrscr();
cout<<"Word Not Added!!!!!!\nPress Any Key\t";
getch();
return;
}

```

```

else
{
cout<<"\nEnter Defination\n";
gets(def);
flag=1;

```

```

ifstream fin(INDEX,ios::binary);
if(!fin)
cout<<"Error";
else
{
fin.seekg(-(int)(sizeof(I)),ios::end);
fin.read((char*)&I,sizeof(I));
code=I.retno();
code++;
strcpy(linked_w,w);
fin.close();
}
}
}

```

```

FULLSCREEN;
clrscr();

```

```

//copy the word to index
I.add(w,linked_w,code);

```

```

ofstream ind(INDEX,ios::binary|ios::app);
if(ind)
{
ind.seekp(ios::end);
ind.write((char*)&I,sizeof(I));
ind.close();
}
else
cout<<"Error";

```

```

if(flag==1) //then add to defination also
{
D.add(code,w,def);
ofstream def(DEFINATION,ios::binary|ios::app);
def.seekp(ios::end);

```

[illegible]

[illegible]