void findfirstword(hashtable\* tudien, word\*& tuhientai)

BEGIN

INPUT \*tudien, \*&tuhientai

FOR i = 0 TO 26 - 1 DO

IF tudien[i].head != NULL THEN

tuhientai = tudien[i].head

BREAK

ENDIF

END

int taptudien(string tu)

BEGIN

INPUT tu

IF tu != "" THEN

char x = tu[0]

IF x < 123 AND x > 96 THEN

RETURN x - 97

ENDIF

RETURN -1

END

word\* leftword(hashtable\* tudien, word\* current)

BEGIN

INPUT \*tudien, \*current

IF current != NULL THEN

\*left = current->left

IF left != NULL THEN

RETURN left

ELSE

x = taptudien(current->tu)

IF x > 0 THEN

WHILE x > 0 DO

IF tudien[x - 1].tail != NULL THEN

RETURN tudien[x - 1].tail

x--

RETURN NULL

ELSE

RETURN NULL

ENDIF

ENDIF

ELSE

RETURN NULL

END

word\* rightword(hashtable\* tudien, word\* current)

BEGIN

INPUT \*tudien, \*current

IF current != NULL THEN

\*right = current->right

IF right != NULL THEN

RETURN right

ELSE

x = taptudien(current->tu)

IF x < 25 THEN

WHILE x != 26 DO

IF tudien[x + 1].head != NULL THEN

RETURN tudien[x + 1].head

x++

RETURN NULL

ELSE

RETURN NULL

ENDIF

ENDIF

ELSE

RETURN NULL

ENDIF

END

void add(word\*& head, word\*& tail, word\*& newword)

BEGIN

INPUT \*&head, \*&tail, \*&newword

\*run = head

IF head == NULL THEN

head = tail = newword

ELSE

WHILE run != NULL DO

IF run->tu < newword->tu THEN

IF run->right == NULL THEN

run->right = newword

newword->left = run

tail = newword

BREAK

ELSE

run = run->right

ENDIF

ELSE

IF run == head THEN

head = newword

head->right = run

run->left = head

BREAK

ELSE

\*tmp = run->left

tmp->right = newword

newword->left = tmp

newword->right = run

run->left = newword

BREAK

ENDIF

ENDIF

ENDIF

END

void deleteword(hashtable\*& tudien, word\*& xoa)

BEGIN

INPUT \*&tudien, \*&xoa

IF xoa != NULL THEN

x = taptudienxoa->tu

\*head = tudien[x].head

\*tail = tudien[x].tail

IF head->tu == xoa->tu THEN

IF head->right == NULL THEN

head = tail = NULL

ELSE

head = head->right

head->left = NULL

ENDIF

ELSE

IF xoa->tu == tail->tu THEN

tail = tail->left

tail->right = NULL

ELSE

\* left = xoa->left

\* right = xoa->right

left->right = right

right->left = left

xoa->left = xoa->right = NULL

ENDIF

ENDIF

delete xoa

xoa = NULL

tudien[x].head = head

tudien[x].tail = tail

ENDIF

END

void deletewordcurrent(hashtable\*& tudien, word\*& tuhientai)

BEGIN

INPUT \*& tudien, \*& tuhientai

IF tuhientai != NULL THEN

\* left = leftword(tudien, tuhientai)

\* right = rightword(tudien, tuhientai)

\* tmp = tuhientai

IF left == NULL AND right == NULL THEN

tuhientai = NULL

ELSE

IF left == NULL THEN

tuhientai = right

ELSE

tuhientai = left

ENDIF

ENDIF

deleteword(tudien, tmp)

ENDIF

END

void printscreen(word\* tmp)

BEGIN

INPUT \*tmp

IF tmp != NULL THEN

WRITE tmp->tu

END

void displaycurrent(word\* tmp)

BEGIN

INPUT \*tmp

IF tmp != NULL THEN

WRITE " " + tmp->tu

FOR i = tmp->tu.length() TO boxs - 1

WRITE " "

ENDIF

END

void displayword(hashtable\* tudien, word\* hientai)

BEGIN

INPUT \*tudien, \*hienta

IF hientai == NULL THEN

FOR i = 0 TO boxw - 1 DO //Xoa sach khung hien thi ket qua tim kiem

gotoxy(boxx + 1, boxy + 3 + i)

FOR j = 0 TO boxs - 1

WRITE " "

ENDIF

IF hientai != NULL THEN

FOR i = 1 TO boxw - 1 DO //Xoa sach khung hien thi ket qua tim kiem

gotoxy(boxx + 2, boxy + 3 + i)

FOR j = 1 TO boxs - 1

WRITE " "

FOR i = 0 TO boxw - 1 DO

IF i == 0 THEN

goTOxy(boxx + 1, boxy + 3 + i)

setcolor(115)

displaycurrent(hientai)

setcolor(63)

ELSE

gotoxy(boxx + 2, boxy + 3 + i)

printscreen(hientai)

ENDIF

hientai = rightword(tudien, hientai)

ENDIF

END

bool compare(string cantim, word\* dangdo)

BEGIN

INPUT cantim, \*dangdo

x = cantim

y = dangdo ->tu

IF x.length > y.length THEN

RETURN false

ELSE

FOR i = 0 TO x.length - 1 DO

IF x[i] != y[i] THEN

RETURN false

RETURN true

ENDIF

END

word\* search(hashtable\* tudien, string searchword)

BEGIN

INPUT \* tudien, searchword

x = taptudiensearchword

IF x < 0 THEN

RETURN NULL

ELSE

\* head = tudien[x].head

WHILE head != NULL DO

IF compare(searchword, head) THEN

RETURN head

head = head->right

RETURN NULL

ENDIF

END

void menu1()

BEGIN

gotoy(18, 2)

setcolor(63)

WRITE "Tab: Them tu moi"

gotoxy(18, 3)

WRITE "Esc: Ket thuc chuong trinh"

setcolor(63)

END

void menu2()

BEGIN

gotoXY(18, 2)

setcolor(63)

WRITE "Backspace: Chinh sua tu nay"

gotoXY(18, 3)

WRITE "Delete: Xoa tu nay"

gotoXY(18, 4)

WRITE "Esc: Quay lai khung tim kiem"

setcolor(63)

END

void menu4()

BEGIN

gotoXY(18, 2)

setcolor(63)

WRITE "Esc: Quay lai khung tim kiem"

setcolor(63)

END

void menu5()

BEGIN

gotoXY(18, 2)

setcolor(63)

WRITE "Esc: Quay lai tu dang xem"

setcolor(63)

END

bool confirmdel(word\*& tu)

BEGIN

INPUT \*&tu

system("cls")

gotoy(boxx, boxy)

WRITE "Ban co chac muon xoa tu " + tu->tu + " khong?"

gotoy(boxx, boxy + 1)

WRITE "Nhan phim Enter de xoa!"

gotoy(boxx, boxy + 1)

WRITE "Nhan phim Esc de quay tro lai!"

key = 0

WHILE key != 13 AND key != 27 DO

key = getch

system("cls")

IF key == 13 THEN

RETURN true

ELSE

IF key == 27 THEN

RETURN false

ENDIF

END

void delerror()

BEGIN

gotoxy(18, boxy + boxw + 2 )

FOR i = 0 TO 39

WRITE " "

END

void printerror(int k)

BEGIN

INPUT k

delerror()

IF k == 1 THEN e = "Bat buoc nhap tu!"

ELSE IF k == 2 THEN e = "Tu nay da TO n tai!"

ELSE IF k == 3 THEN e = "Vui long nhap nghia cua tu!"

ELSE IF k == 4 THEN e = "Vui long nhap dang day du cua tu!"

setcolor(62)

gotoxy(18, boxy + boxw + 2)

WRITE "ERROR: " + e

setcolor(63)

END

string fixtext(string t)

BEGIN

INPUT t

IF t != "" THEN

WHILE t[0] == ' ' DO

t.erase(0, 1) //Xoa khoang trang o dau

WHILE t[t.length - 1] == ' ' DO

t.erase(t.length - 1, 1) //Xoa khoang trang o cuoi

IF t.length > 3 //Xoa khoang trang thua o giua

FOR i = 1 TO t.length - 3

IF t[i] == ' ' AND t[i + 1] == ' ' THEN

t.erase(i, 1)

i--

ENDIF

FOR i = 0 TO t.length

IF t[i] >= 'A' AND t[i] <= 'Z'

t[i] += 32 //Chuyen chu hoa thanh chu thuong

RETURN t

ELSE

RETURN t

ENDIF

END

int checktext(hashtable\* tudien, string t, int k)

BEGIN

INPUT \*tudien, t, k

t = fixtext(t)

IF k == 1 THEN

IF t == ""

RETURN 1

ELSE

IF search(tudien, t) != NULL THEN

IF search(tudien, t)->tu.length == t.length

RETURN 2

ENDIF

ELSE

IF k == 2 THEN

IF t == ""

RETURN 3

ELSE

IF k == 5 THEN

IF t == ""

RETURN 4

ENDIF

ENDIF

RETURN 0

END

void addwordbox()

BEGIN

setcolor55

gotoxy(boxx, boxy)

WRITE char (201)

FOR i = 1 TO boxs

WRITE char (205)

WRITE char (187)

gotoxy(boxx, boxy + 1)

WRITE char (186) + " Tu viet tat:"

gotoxy(boxx + 1, boxy + 1) WRITE char(186)

gotoxy(boxx, boxy + 2); WRITE char(186) + " Nghia 1 :"

gotoxy(boxx + boxs + 1, boxy + 2); WRITE char(186)

gotoxy(boxx, boxy + 3); WRITE char(186) + " Nghia 2 :"

gotoxy(boxx + boxs + 1, boxy + 3); WRITE char(186)

gotoxy(boxx, boxy + 4); WRITE char(186) + " Nghia 3 :"

gotoxy(boxx + boxs + 1, boxy + 4); WRITE char(186)

gotoxy(boxx, boxy + 5); WRITE char(186) + " Dang day du:"

gotoxy(boxx + boxs + 1, boxy + 5); WRITE char(186)

gotoxy(boxx, boxy + 6); WRITE char(186) + " Vi du 1 :"

gotoxy(boxx + boxs + 1, boxy + 6); WRITE char(186)

gotoxy(boxx, boxy + 7); WRITE char(186) + " Vi du 2 :"

gotoxy(boxx + boxs + 1, boxy + 7); WRITE char(186)

gotoxy(boxx, boxy + 8); WRITE char(186) + " Vi du 3 :"

gotoxy(boxx + boxs + 1, boxy + 8); WRITE char(186)

gotoxy(boxx, boxy + 9); WRITE char(200)

FOR i = 1 TO boxs

WRITE char(205)

WRITE char(188)

setcolor(63)

END

void printtextfield(string t, int k)

BEGIN

INPUT t, k

gotoxy(boxx + 17, boxy + k)

IF t.length >= boxs - 17 THEN

FOR i = 0 TO boxs - 18

WRITE t[i]

ELSE

IF t.length < boxs - 17 THEN

WRITE t

FOR i = 0 TO boxs - 18 - t.length

WRITE " "

ENDIF

END

void addword(hashtable\*& tudien)

BEGIN

INPUT \*&tudien

system("cls")

field[0] = ""

field[1] = ""

field[2] = ""

field[3] = ""

field[4] = ""

field[5] = ""

field[6] = ""

field[7] = ""

addwordbox()

menu4()

FOR k = 1 TO 8 DO

keyhit = 0

dem = field[k - 1].length

text = field[k - 1]

WHILE keyhit != 13 DO

gotoxy(boxx + 17, boxy + k)

IF dem < boxs - 17 THEN

WRITE text

FOR i = 1 TO boxs - 16 - dem - 1 DO

WRITE " "

ELSE

FOR i = dem - boxs + 17 TO dem - 1 DO

WRITE text[i]

ENDIF

IF dem < boxs - 17

gotoxy(boxx + 17 + dem, boxy + k) //Xuat ra vi tri con tro khi khung nhap chua bi tran

ELSE

gotoxy(boxx + boxs, boxy + k) //Xuat ra vi tri con tro khi khung nhap bi tran

keyhit = getch()

IF keyhit == 224 THEN

keyhit = getch()

IF keyhit == 72 THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k )

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k > 1 THEN

k--

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ELSE

IF keyhit == 80 THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k < 8 THEN

k++

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ENDIF

ELSE

IF keyhit == 8 THEN

IF dem > 0 AND dem < boxs - 16 THEN

dem--

text = text.substr0, text.size - 1

ELSE

IF dem > 0 THEN

dem--

text = text.substr(0, text.size - 1)

ENDIF

ELSE

IF (dem < boxs - 17 AND ((keyhit > 96 AND keyhit < 123) OR (keyhit > 64 AND keyhit < 91) OR keyhit == 32 OR keyhit == 39 OR keyhit == 45 OR keyhit == 63 OR keyhit == 33 ))THEN

IF keyhit == 63 OR keyhit == 33 THEN

IF k == 7 OR k == 8 OR k == 9 THEN

dem++

text += char(keyhit)

ENDIF

ELSE

dem++

text += char(keyhit)

ELSE

IF (keyhit > 96 AND keyhit < 123) OR (keyhit > 64 AND keyhit < 91) OR keyhit == 32 OR keyhit == 39 OR keyhit == 45 OR keyhit == 63 OR keyhit == 33 THEN

IF keyhit == 63 OR keyhit == 33 THEN

IF k == 7 OR k == 8 OR k == 9 THEN

dem++

text += char(keyhit)

ELSE

dem++

text += char(keyhit)

ELSE

IF keyhit == 27

BREAK

ELSE

IF keyhit == 13

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorcheck(texttudien, text, k)

ENDIF

ENDIF

ENDIF

IF keyhit == 27 THEN

BREAK

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF keyhit != 27 THEN

\* tu = new word

tu->tu = field[0]

tu->nghia[0] = field[1]

tu->nghia[1] = field[2]

tu->nghia[2] = field[3]

tu->tu\_daydu = field[4]

tu->vidu[0] = field[5]

tu->vidu[1] = field[6]

tu->vidu[2] = field[7]

add(tudien[taptudientu->tu].head, tudien[taptudientu->tu].tail, tu )

updated = true

ENDIF

system("cls")

END

void editword(hashtable\* tudien, word\*& hientai)

BEGIN

INPUT \*tudien, \*&hientai

system("cls")

field[0] = hientai->tu

field[1] = hientai->nghia[0]

field[2] = hientai->nghia[1]

field[3] = hientai->nghia[2]

field[4] = hientai->tu\_daydu

field[5] = hientai->vidu[0]

field[6] = hientai->vidu[1]

field[7] = hientai->vidu[2]

addwordbox()

menu5()

FOR k = 1 TO 8 DO //In gia tri cua cac field ra man hinh

text = field[k - 1]

dem = field[k - 1].length

gotoxy(boxx + 17, boxy + k)

IF dem < boxs - 17 THEN

WRITE text

FOR i = 1 TO boxs - 16 - dem -1 DO

WRITE " "

ELSE

FOR i = 0 TO boxs - 17 DO

WRITE text[i]

ENDIF

FOR k = 1 TO 8 DO

keyhit = 0

dem = field[k - 1].length

text = field[k - 1]

WHILE keyhit != 13 DO

gotoxy(boxx + 17, boxy + k)

IF dem < boxs - 17 THEN

WRITE text

FOR i = 1 TO boxs - 16 - dem -1

WRITE " "

ELSE

FOR i = dem - boxs + 17 TO dem -1

WRITE text[i]

ENDIF

IF dem < boxs - 17

gotoxy(boxx + 17 + dem, boxy + k) //Xuat ra vi tri con tro khi khung nhap chua bi tran

ELSE

gotoxy(boxx + boxs, boxy + k) //Xuat ra vi tri con tro khi khung nhap bi tran

keyhit = getch()

IF keyhit == 224 THEN

keyhit = getch()

IF keyhit == 72 THEN

IF k != 1 THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k > 1 THEN

k--

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ELSE

IF fixtext(text) != field[0] THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktexttudien, text, k

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k > 1 THEN

k--

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k > 1 THEN

k--

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ENDIF

ELSE

IF keyhit == 80 THEN

IF k != 1 THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k < 8 THEN

k++

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ELSE

IF fixtext(text) != field[0] THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k < 8 THEN

k++

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ELSE

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF k < 8 THEN

k++

dem = field[k - 1].length

text = field[k - 1]

ENDIF

ENDIF

ENDIF

ELSE

IF keyhit == 8 THEN

IF dem > 0 AND dem < boxs - 16 THEN

dem--

text = text.substr(0, text.size - 1)

ELSE

IF dem > 0 THEN

dem--

text = text.substr(0, text.size - 1)

ENDIF

ELSE

IF dem < boxs - 17 AND ((keyhit > 96 AND keyhit < 123) OR (keyhit > 64 AND keyhit < 91) OR keyhit == 32 OR keyhit == 39 OR keyhit == 45 OR keyhit == 63 OR keyhit == 33)THEN

IF keyhit == 63 OR keyhit == 33 THEN

IF k == 7 OR k == 8 OR k == 9 THEN

dem++

text += char(keyhit)

ELSE

dem++

text += char(keyhit)

ENDIF

ELSE

IF (keyhit > 96 AND keyhit < 123) OR (keyhit > 64 AND keyhit < 91) OR keyhit == 32 OR keyhit == 39 OR keyhit == 45 OR keyhit == 63 OR keyhit == 33 THEN

IF keyhit == 63 OR keyhit == 33 THEN

IF k == 7 OR k == 8 OR k == 9 THEN

dem++

text += char(keyhit)

ELSE

dem++

text += char(keyhit)

ENDIF

ELSE

IF keyhit == 27 THEN

BREAK

ELSE

IF keyhit == 13 THEN

IF k != 1 THEN

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ENDIF

ELSE

IF fixtext(text) != field[0] THEN //Neu k = 1, text khong thay - 1 DO i thi khong can check...

IF checktext(tudien, text, k) != 0 THEN

keyhit = 0

printerrorchecktext(tudien, text, k)

ENDIF

ENDIF

ENDIF

ENDIF

IF keyhit == 27 THEN

BREAK

text = fixtext(text)

printtextfield(text, k)

field[k - 1] = text

delerror()

IF keyhit != 27 THEN

hientai->tu = field[0]

hientai->nghia[0] = field[1]

hientai->nghia[1] = field[2]

hientai->nghia[2] = field[3]

hientai->tu\_daydu = field[4]

hientai->vidu[0] = field[5]

hientai->vidu[1] = field[6]

hientai->vidu[2] = field[7]

updated = true

ENDIF

system("cls")

END

void dicbox()

BEGIN

setcolor(55)

gotoxy(boxx, boxy)

WRITE char(201)

FOR i = 1 TO boxs + 1 DO

WRITE char(205)

WRITE char(187)

gotoxy(boxx, boxy + 1)

WRITE char(186) + " Tim kiem:"

gotoxy(boxx + boxs + 1, boxy + 1)

WRITE char(186)

gotoxy(boxx, boxy + 2)

WRITE char(204)

FOR i = 1 TO boxs + 1 - 1 DO

WRITE char(205)

WRITE char(185)

FOR i = boxy + 3 TO boxy + 3 + boxw - 1 DO

gotoxy(boxx, i)

WRITE char(186)

gotoxy(boxx + boxs + 1, i)

WRITE char(186)

gotoxy(boxx, boxy + boxw + 3)

WRITE char(200)

FOR i = 1 TO boxs DO

WRITE char(205)

WRITE char(188)

setcolor(63)

END

void stringout(string n, int d)

BEGIN

INPUT n, d

int dem = 0

FOR i = 0 TO n.length - 1 DO

WRITE n[i]

IF i + 1 % boxs - 2 == 0 THEN

dem++

go TO xyboxx + 2, boxy + d + dem

ENDIF

END

int linecount(string n)

BEGIN

INPUT n

IF n == ""

RETURN 0

ELSE

int d = n.length / boxs - 2

int e = n.length % boxs - 2

IF e != 0 d++

RETURN d

ENDIF

END

void detailbox(word\* hientai)

BEGIN

INPUT \*hientai

setcolor(55)

nghia = "nghia: "

nghia += hientai->nghia[0]

IF hientai->nghia[1] != ""

nghia = nghia + " " + hientai->nghia[1]

IF hientai->nghia[2] != ""

nghia = nghia + " " + hientai->nghia[2]

d = 2

d += linecount(nghia)

IF hientai->vidu[0] != ""

d += linecount("Vi du 1: " + hientai->vidu[0])

IF hientai->vidu[1] != ""

d += linecount("Vi du 2: " + hientai->vidu[1])

IF hientai->vidu[2] != ""

d += linecount("Vi du 3: " + hientai->vidu[2])

gotoxy(boxx, boxy)

WRITE char(201)

FOR i = 1 TO boxs DO

WRITE char(205)

WRITE char(187)

FOR i = boxy + 1 TO boxy + 1 + d - 1 DO

gotoxy(boxx, i)

WRITE char(186)

gotoxy(boxx + boxs + 1, i)

WRITE char(186)

gotoxy(boxx, boxy + d + 1)

WRITE char(200)

FOR i = 1 TO boxs DO

WRITE char(205)

WRITE char(188)

setcolor(63)

END

void detailword(hashtable\* tudien, word\*& hientai)

BEGIN

INPUT \*tudien, \*&hientai

system("cls")

int keyhit = 0

WHILE keyhit != 27 DO

IF hientai != NULL THEN

d = 3

menu2()

detailbox(hientai)

gotoxy(boxx + 2, boxy + 1) //In tu dang xem

WRITE hientai->tu

gotoxy(boxx + 2, boxy + 2) //In dang viet day du

WRITE "Dang day du: " + hientai->tu\_daydu

gotoxy(boxx + 2, boxy + d) //In ra cac nghia

nghia = "Nghia: "

nghia += hientai->nghia[0]

IF hientai->nghia[1] != "" THEN

nghia = nghia + " " + hientai->nghia[1]

IF hientai->nghia[2] != "" THEN

nghia = nghia + " " + hientai->nghia[2]

stringout(nghia, d)

d += linecount(nghia)

IF hientai->vidu[0] != "" THEN //In ra vi du 1

gotoxy(boxx + 2, boxy + d)

stringout("Vi du 1: " + hientai->vidu[0], d)

d += linecount("Vi du 1: " + hientai->vidu[0])

ENDIF

IF hientai->vidu[1] != "" THEN //In ra vi du 2

gotoxy(boxx + 2, boxy + d)

stringout("Vi du 2: " + hientai->vidu[1], d)

d += linecount("Vi du 2: " + hientai->vidu[1])

ENDIF

IF hientai->vidu[2] != "" THEN //In ra vi du 3

gotoxy(boxx + 2, boxy + d)

stringout("Vi du 2: " + hientai->vidu[2], d)

ENDIF

keyhit = getch()

IF keyhit == 8 THEN

editword(tudien, hientai) //an backspace

ELSE

IF keyhit == 83 THEN//an delete

IF confirmdel(hientai) THEN

deletewordcurrent(tudien, hientai)

keyhit = 27

updated = true

ENDIF

ENDIF

ELSE

keyhit = 27

ENDIF

system("cls")

END

void searchbox(hashtable\*& tudien, word\*& tuhientai)

BEGIN

INPUT \*&tudien, \*&tuhientai

setcolor(63)

changed = false

intext = ""

dem = 0

keyhit = 0

WHILE keyhit != 27 DO //chua nhan Esc

menu1()

dicbox()

gotoxy(boxx + 12, boxy + 1) //Viet lai nhung chu cai da nhap trong khung tim kiem

IF dem < boxs - 12 THEN

WRITE intext

ELSE

FOR i = dem - boxs + 12 TO dem -1

WRITE intext[i]

ENDIF

WHILE keyhit != 13 OR tuhientai == NULL DO//Chua nhan Enter

IF changed THEN

IF fixtext(intext) != "" THEN

tuhientai = search(tudien, fixtext(intext))

ELSE

findfirstword(tudien, tuhientai)

ENDIF

displayword(tudien, tuhientai) //Hien thi ket qua tim kiem

IF dem < boxs - 12 THEN

gotoxy(boxx + 12 + dem, boxy + 1) //Xuat ra vi tri con tro khi khung nhap chua bi tran

ELSE

gotoxy(boxx + boxs, boxy + 1) //Xuat ra vi tri con tro khi khung nhap bi tran

keyhit = getch()

IF keyhit == 224 THEN

keyhit = getch()

IF keyhit == 72 THEN //UP

IF leftword(tudien, tuhientai) != NULL THEN

tuhientai = leftword(tudien, tuhientai)

ELSE

IF keyhit == 80 THEN // - 1 DO WN

IF rightword(tudien, tuhientai) != NULL THEN

tuhientai = rightword(tudien, tuhientai)

ENDIF

changed = false

ELSE

IF keyhit == 8 THEN //Kiem tra phim backspace de xoa...

IF dem > 0 AND dem < boxs - 11 THEN

dem--

intext = intext.substr(0, intext.size - 1) //Xoa ky tu cuoi trong string

gotoxy(boxx + 12, boxy + 1)

WRITE intext

FOR i = 1 TO boxs - 11 - dem -1 DO

WRITE " "

ELSE

IF dem > 0 THEN

dem--

intext = intext.substr(0, intext.size - 1)

gotoxy(boxx + 12, boxy + 1)

FOR i = dem - boxs + 12 TO dem -1 DO

WRITE intext[i]

ENDIF

changed = true

ELSE

IF dem < boxs - 12 AND ((keyhit > 96 AND keyhit < 123) OR keyhit > 64 AND keyhit < 91 OR keyhit == 32 OR keyhit == 39 OR keyhit == 45)THEN

dem++

intext += char(keyhit)

gotoxy(boxx + 12, boxy + 1)

WRITE intext

FOR i = 1 TO boxs - 11 - dem -1 DO

WRITE " "

changed = true

ELSE IF (keyhit > 96 AND keyhit < 123)/\*a -z\*/ OR (keyhit > 64 AND keyhit < 91)/\*A- Z\*/ OR keyhit == 32/\*space\*/ OR keyhit == 39/\* ' \*/ OR keyhit == 45/\* - \*/ THEN

dem++

intext += char(keyhit)

gotoxy(boxx + 12, boxy + 1 )

FOR i = dem - boxs + 12 TO dem -1 DO

WRITE intext[i]

changed = true

ENDIF

ELSE

IF keyhit == 27

BREAK //Esc

ELSE

IF keyhit == 9

BREAK //Tab

ENDIF

IF keyhit == 13 THEN

detailword(tudien, tuhientai)

keyhit = 0

ELSE

IF keyhit == 9 THEN

addword(tudien)

ELSE

system("cls")

gotoxy(boxx, boxy)

WRITE "Nhan Esc mot lan nua de thoat chuong trinh"

gotoxy(boxx, boxy + 1)

WRITE "Nhan bat ky phim nao khac de quay lai chuong trinh"

keyhit = getch()

IF keyhit != 27 THEN

IF keyhit == 224 THEN

keyhit = getch()

keyhit = 0

}

system("cls")

ENDIF

ENDIF

END

void addlast(word\*& head, word\*& tail, word\*& newword)

BEGIN

INPUT \*&head, \*&tail, \*&newword

IF head == NULL THEN

head = tail = newword

ELSE

tail->right = newword

newword->left = tail

tail = newword

ENDIF

END

void tachchuoi(string line, word\*& tmp)

BEGIN

INPUT line, \*&tmp

d = 0

i = 0

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->tu = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->tu\_daydu = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->nghia[0] = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->nghia[1] = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->nghia[2] = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->vidu[0] = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->vidu[1] = tach

tach = ""

WHILE line[i] != '/' DO

tach += line[i]

i++

i++

tmp->vidu[2] = tach

END

void importword(hashtable\*& tudien, string line)

BEGIN

INPUT \*&tudien, line

FOR i = 97 TO 124 - 1 DO

IF line[0] == i THEN

\* newword = new word

tachchuoi(line, newword)

newword->left = NULL

newword->right = NULL

addlast(tudien[i - 97].head, tudien[i - 97].tail, newword)

BREAK

ENDIF

END

void readf(hashtable\*& tudien, word\*& tuhientai)

BEGIN

INPUT \*&tudien, \*& tuhientai

IFstream fi("data.txt")

IF fi.is\_open THEN

WHILE getline(fi, line) THEN

importword(tudien, line)

fi.close()

findfirstword(tudien, tuhientai)

END

int main()

BEGIN

system("color 3f")

SetConsoleTitle("TU DIEN VIET TAT")

\* tuhientai = NULL

\* tudien = new hashtable[26]

FOR i = 0 TO 26 - 1 DO

tudien[i].tail = NULL

tudien[i].head = NULL

readf(tudien, tuhientai)

searchbox(tudien, tuhientai)

IF (updated)

writef(tudien)

gotoxy(0, boxw + 10)

RETURN 0

END