Temă laborator 1 – Sisteme de Operare

#undef UNICODE

#include <windows.h>

#include <stdio.h> // adaugarea librariei pentru functia de string, adica sprintf\_s

#include "resource.h"

LRESULT CALLBACK WndProc(HWND, UINT, WPARAM, LPARAM);

BOOL CALLBACK DlgProc(HWND hDlg, UINT iMsg, WPARAM wParam, LPARAM lParam);

BOOL dlgActive = FALSE;

INT nr1;

INT nr2;

BOOL selectSuccesNr1;

BOOL selectSuccesNr2;

INT selectedNr1;

INT selectedNr2;

FLOAT result;

HWND hwndMain;

int WINAPI WinMain(HINSTANCE hInstance, HINSTANCE hPrevInstance,

PSTR szCmdLine, int iCmdShow)

{

static char szAppName[] = "Dialog";

HWND hwnd;

MSG msg;

WNDCLASSEX wndclass;

wndclass.cbSize = sizeof(wndclass);

wndclass.style = CS\_HREDRAW | CS\_VREDRAW;

wndclass.lpfnWndProc = WndProc;

wndclass.cbClsExtra = 0;

wndclass.cbWndExtra = 0;

wndclass.hInstance = hInstance;

wndclass.hIcon = LoadIcon(NULL, IDI\_APPLICATION);

wndclass.hCursor = LoadCursor(NULL, IDC\_ARROW);

wndclass.hbrBackground = (HBRUSH)GetStockObject(WHITE\_BRUSH);

wndclass.lpszMenuName = NULL;

wndclass.lpszClassName = szAppName;

wndclass.hIconSm = LoadIcon(NULL, IDI\_APPLICATION);

RegisterClassEx(&wndclass);

hwnd = CreateWindow(szAppName,

"Operatii simple cu numere generate",

WS\_OVERLAPPEDWINDOW,

CW\_USEDEFAULT,

CW\_USEDEFAULT,

CW\_USEDEFAULT,

CW\_USEDEFAULT,

NULL,

NULL,

hInstance,

NULL);

SetWindowPos(hwnd, HWND\_BOTTOM, 0, 0, 0, 0, SWP\_NOACTIVATE);

ShowWindow(hwnd, SW\_HIDE);

UpdateWindow(hwnd);

hwndMain = hwnd;

while (GetMessage(&msg, NULL, 0, 0))

{

TranslateMessage(&msg);

DispatchMessage(&msg);

}

return msg.wParam;

}

LRESULT CALLBACK WndProc(HWND hwnd, UINT iMsg, WPARAM wParam, LPARAM lParam)

{

static HINSTANCE hInstance;

switch (iMsg)

{

case WM\_CREATE:

hInstance = ((LPCREATESTRUCT)lParam)->hInstance;

if (!dlgActive) {

DialogBox(hInstance, MAKEINTRESOURCE(IDD\_DIALOG), hwnd, DlgProc);

PostMessage(hwnd, WM\_CLOSE, 0, 0);

}

return 0;

case WM\_DESTROY:

PostQuitMessage(0);

return 0;

}

return DefWindowProc(hwnd, iMsg, wParam, lParam);

}

BOOL CALLBACK DlgProc(HWND hDlg, UINT iMsg, WPARAM wParam, LPARAM lParam) {

char text[100];

switch (iMsg) {

case WM\_INITDIALOG:

return TRUE;

case WM\_CLOSE:

dlgActive = FALSE;

EndDialog(hDlg, 0);

return TRUE;

case WM\_COMMAND:

switch (LOWORD(wParam)) {

case ID\_NR1:

nr1 = rand() % 100; // se va genera un nou numar din intervalul [0, 100)

SetDlgItemInt(hDlg, IDC\_EDIT\_NR1, nr1, true); // setam numarul generat in campul IDC\_EDIT\_NR1

return TRUE;

case ID\_NR2:

nr2 = rand() % 100; // se va genera un nou numar din intervalul [0, 100)

SetDlgItemInt(hDlg, IDC\_EDIT\_NR2, nr2, true); // setam numarul generat in campul IDC\_EDIT\_NR2

return TRUE;

case ID\_ADUNARE:

selectedNr1 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR1, &selectSuccesNr1, false); // selectam numarul din campul IDC\_EDIT\_NR1

selectedNr2 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR2, &selectSuccesNr2, false); // selectam numarul din campul IDC\_EDIT\_NR2

if (!selectSuccesNr1 && !selectSuccesNr2) { // daca niciunul dintre cele 2 numere nu sunt generate

MessageBox(hDlg, "Nu ati generat niciun numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr1) { // daca primul numar nu este generat

MessageBox(hDlg, "Nu ati generat primul numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr2) { // daca al 2-lea numar nu este generat

MessageBox(hDlg, "Nu ati generat al 2-lea numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

// Mai sus avem cazurile de exceptie, am abordat metoda "Early return" cu toate cazurile in care primim eroare

result = (float)selectedNr1 + (float)selectedNr2;

sprintf\_s(text, "%d + %d = %d", selectedNr1, selectedNr2, (int)result);

MessageBox(hDlg, text, "Adunare", MB\_OK); // Afisam rezultatul

return TRUE;

case ID\_SCADERE:

selectedNr1 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR1, &selectSuccesNr1, false);

selectedNr2 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR2, &selectSuccesNr2, false);

if (!selectSuccesNr1 && !selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat niciun numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr1) {

MessageBox(hDlg, "Nu ati generat primul numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat al 2-lea numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

result = selectedNr1 - selectedNr2;

sprintf\_s(text, "%d - %d = %d", selectedNr1, selectedNr2, (int)result);

MessageBox(hDlg, text, "Scadere", MB\_OK);

return TRUE;

case ID\_INMULTIRE:

selectedNr1 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR1, &selectSuccesNr1, false);

selectedNr2 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR2, &selectSuccesNr2, false);

if (!selectSuccesNr1 && !selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat niciun numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr1) {

MessageBox(hDlg, "Nu ati generat primul numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat al 2-lea numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

result = (float)selectedNr1 \* (float)selectedNr2;

sprintf\_s(text, "%d \* %d = %d", selectedNr1, selectedNr2, (int)result);

MessageBox(hDlg, text, "Inmultire", MB\_OK);

return TRUE;

case ID\_IMPARTIRE:

selectedNr1 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR1, &selectSuccesNr1, false);

selectedNr2 = GetDlgItemInt(hDlg, IDC\_EDIT\_NR2, &selectSuccesNr2, false);

if (!selectSuccesNr1 && !selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat niciun numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr1) {

MessageBox(hDlg, "Nu ati generat primul numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (!selectSuccesNr2) {

MessageBox(hDlg, "Nu ati generat al 2-lea numar!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

if (selectedNr2 == 0) { // la impartire mai avem inca un caz, acela in care impartitorul este 0, nu se poate efectua impartirea deoarece este nedefinita(nu poti sa imparti la 0)

MessageBox(hDlg, "Impartirea la 0 nu este posibila!", "Eroare", MB\_OK | MB\_ICONSTOP);

return FALSE;

}

result = (float)selectedNr1 / (float)selectedNr2;

sprintf\_s(text, "%d / %d = %f", selectedNr1, selectedNr2, result);

MessageBox(hDlg, text, "Impartire", MB\_OK);

return TRUE;

case ID\_CANCEL:

dlgActive = FALSE;

EndDialog(hDlg, 0);

return TRUE;

}

break;

}

return FALSE;

}

|  |  |
| --- | --- |
| **Adunare** | **Scadere** |
|  |  |
| **Inmultire** | **Impartire** |
|  |  |

|  |  |
| --- | --- |
| **Eroare #1** | **Eroare #2** |
|  |  |
| **Eroare #3** | **Eroare #4** |
|  |  |