

Programming in Assembler

Laboratory manual

Exercise 1.a.

Installing MASM 32



During the Exercise No. 1a students are to install and configure Micro\$oft assembler MASM 32 with full enviroment for program writing and debugging.

Enviroment consists of:

- The Micro\$oft Macro Assembler 32 (MASM32)
- Quick Editor
- Debbuger
- A project management utility
- A source-level browser

To install the MASM32 enviroment the following are needed:

- Instalation version of the MASM32
- Documentation of the enviroment

All needed materials can be accessed from shared network drive mapped on the lab computers.

Step by step instalation:

- unpack the zip file named **MASM32v8.zip**
- run **Install.exe**
- follow the on-screen instructions

An installation of the MASM32 performs four main actions:

1. Builds the IMPORT Libraries for system API calls.
2. Builds the MASM32 static library.
3. Builds the FPULIB static library.
4. Installs the VKdebug files into MASM32.

Create a program that displays simple message box of the following code:

```
.386
.model flat,stdcall
option casemap:none
include      \masm32\include\windows.inc
include      \masm32\include\kernel32.inc
includelib  \masm32\lib\kernel32.lib
include      \masm32\include\user32.inc
includelib  \masm32\lib\user32.lib

.data
MsgBoxCaption  db "Programming in Assembler Laboratory",0
MsgBoxText     db "Win32 Assembly is Great!",0

.code
start:
invoke MessageBox, NULL, addr MsgBoxText, addr MsgBoxCaption, MB_OK
invoke ExitProcess, NULL
end start
```

After that try out several examplary programs from **/masm32/example?** directories.