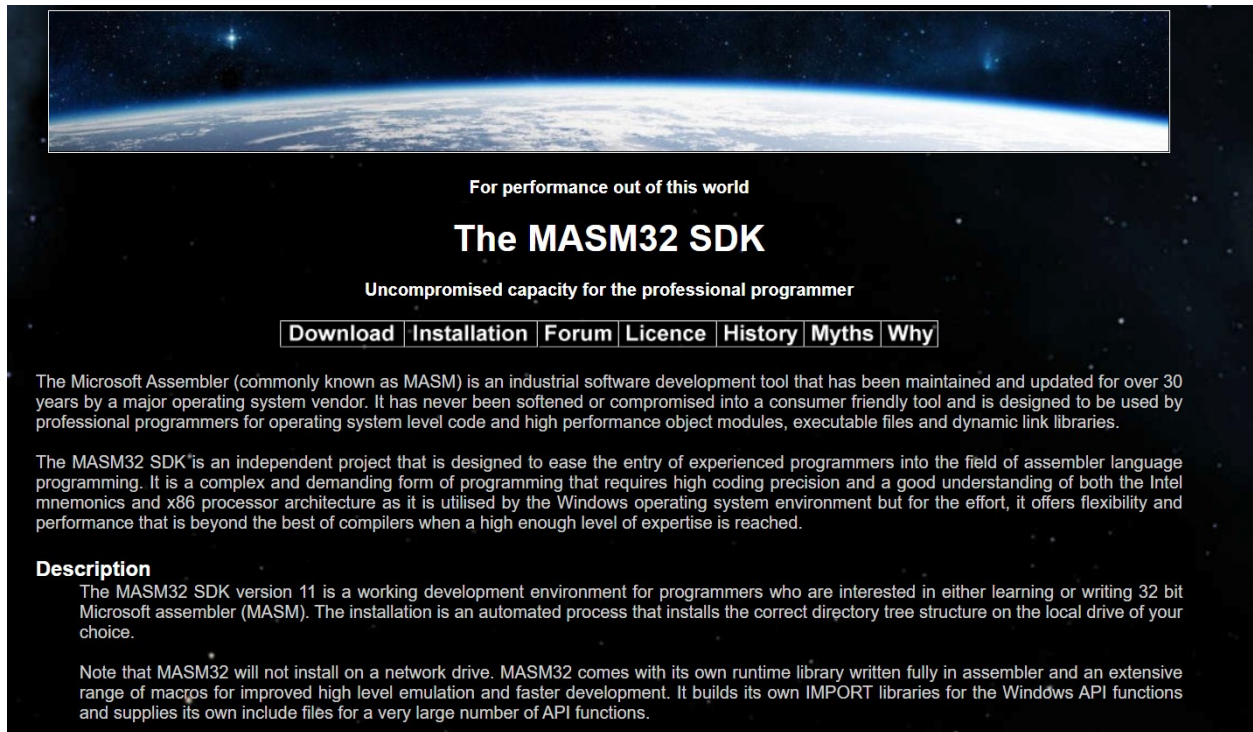


Lab 1 Report

Setting up MASM32 and running our Hello World code....

First, we install MASM32 from the official website <https://masm32.com/>

To install MASM32 we follow some step which are

The screenshot shows the MASM32 SDK website. At the top is a banner image of the Earth's horizon from space. Below the banner, the text "For performance out of this world" is centered. The main heading "The MASM32 SDK" is prominently displayed. Underneath it, the tagline "Uncompromised capacity for the professional programmer" is shown. A navigation bar contains links: "Download", "Installation", "Forum", "Licence", "History", "Myths", and "Why". Two paragraphs of text describe the Microsoft Assembler (MASM) and the MASM32 SDK. A "Description" section follows, detailing the MASM32 SDK version 11 as a development environment for 32-bit MASM. A final note mentions that MASM32 does not install on network drives and includes its own runtime library and macros.

For performance out of this world

The MASM32 SDK

Uncompromised capacity for the professional programmer

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The Microsoft Assembler (commonly known as MASM) is an industrial software development tool that has been maintained and updated for over 30 years by a major operating system vendor. It has never been softened or compromised into a consumer friendly tool and is designed to be used by professional programmers for operating system level code and high performance object modules, executable files and dynamic link libraries.

The MASM32 SDK is an independent project that is designed to ease the entry of experienced programmers into the field of assembler language programming. It is a complex and demanding form of programming that requires high coding precision and a good understanding of both the Intel mnemonics and x86 processor architecture as it is utilised by the Windows operating system environment but for the effort, it offers flexibility and performance that is beyond the best of compilers when a high enough level of expertise is reached.

Description

The MASM32 SDK version 11 is a working development environment for programmers who are interested in either learning or writing 32 bit Microsoft assembler (MASM). The installation is an automated process that installs the correct directory tree structure on the local drive of your choice.

Note that MASM32 will not install on a network drive. MASM32 comes with its own runtime library written fully in assembler and an extensive range of macros for improved high level emulation and faster development. It builds its own IMPORT libraries for the Windows API functions and supplies its own include files for a very large number of API functions.

Go to the Download tab.

MASM32 SDK Version 11 Downloads

[Download](#) [Installation](#) [Forum](#) [Licence](#) [History](#) [Myths](#) [Why](#) [Home](#)

This version is for NT based systems from WIN2000 upwards. The oldest recommended Windows version is XP SP3 as many of the binaries in the MASM32 SDK require RGB/A support. The SDK will run on Win2000 but some of the graphics will not display properly.

You may select any server to download the masm32 SDK but you may get a faster download by selecting one that is closer to where you live.

[US Site 1](#)

For American and international programmers from around the world.

[US Site 2](#)

For American and international programmers from around the world.

[Eastern Europe](#)

Bogdan Ontanu's site in [Romania](#) with information about his Solar_Os and Solar_Asm, an advanced new assembler he is developing.

[Western Europe](#)

The CodingCrew site for Programmers in **Germany and Western Europe** with German language support.

[Australia 1](#)

For programmers in Australia, China, South East Asia and the Pacific region.

下载网站从中国的程序员。

[Australia 2](#)

For programmers in Australia, China, South East Asia and the Pacific region.

下载网站从中国的程序员。

And select the Western Europe to download the setup.

The screenshot shows the CodingCrew.de website with a blue header and a light blue background. The main content area is titled "MASM32 package" and features a section for "MASM32 SDK Version 11 [32 Bit Macro Assembler]". This section includes an "Information:" block with links to support, FAQ, and source code, as well as a "Download the MASM32 package (4.77 MB)" link. A "More:" section provides links for "Why program in 32 bit assembler?" and "Features". Below this, a "Why program in 32 bit assembler?" section explains the benefits of high-performance and dynamic link libraries. The left sidebar contains navigation links for "Generally", "programming", "Marwin's software", and "Win32 assembler".

CodingCrew.de
PROGRAMMIERUNG & WEBDESIGN

MASM32 package • Marwin's software • link list • board

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Generally

- Home -
- News
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programming

- CodingCrew.de Board
- link list

Marwin's software

- Win32ASM programming
- QuickBasic programming
- PHP programming
- JavaScript programming
- Other work

Win32 assembler

- MASM32 SDK version 11
- MASM32 SDK older versions
- MASM32 support
- MASM32 support: FAQ
- Win32.hlp

MASM32 package

MASM32 SDK Version 11 [32 Bit Macro Assembler]

Information:

- » MASM32-Support
- » MASM32-Support: FAQ
- » CodingCrew.de-Board
- » Win32ASM program examples with source code (eg the MASM32 Development System)
- » useful links for Win32ASM programmers
- » the indispensable Win32.hlp (Win32 Programmer's Reference) Link
- » list to other Win32 SDKs

Attention!

The current version of the MASM32 package only runs from Windows 2000. The legacy version is required for Windows 95/98. This is available [here](#).

Download the MASM32 package (4.77 MB)

- » Older versions of the MASM32 package

More:

- » Why program in 32 bit assembler?
- » Features

Why program in 32 bit assembler?

Assembler offers the programmer looking for additional performance three different ways to write high-performance software.

1) High-performance

Programs that were created with the Macro Assembler have advantages both in terms of file size and in their speed of execution, which go far beyond the capabilities of the best compilers. Programs that have to be tuned for high performance are therefore usually always a product of pure assembler programs.

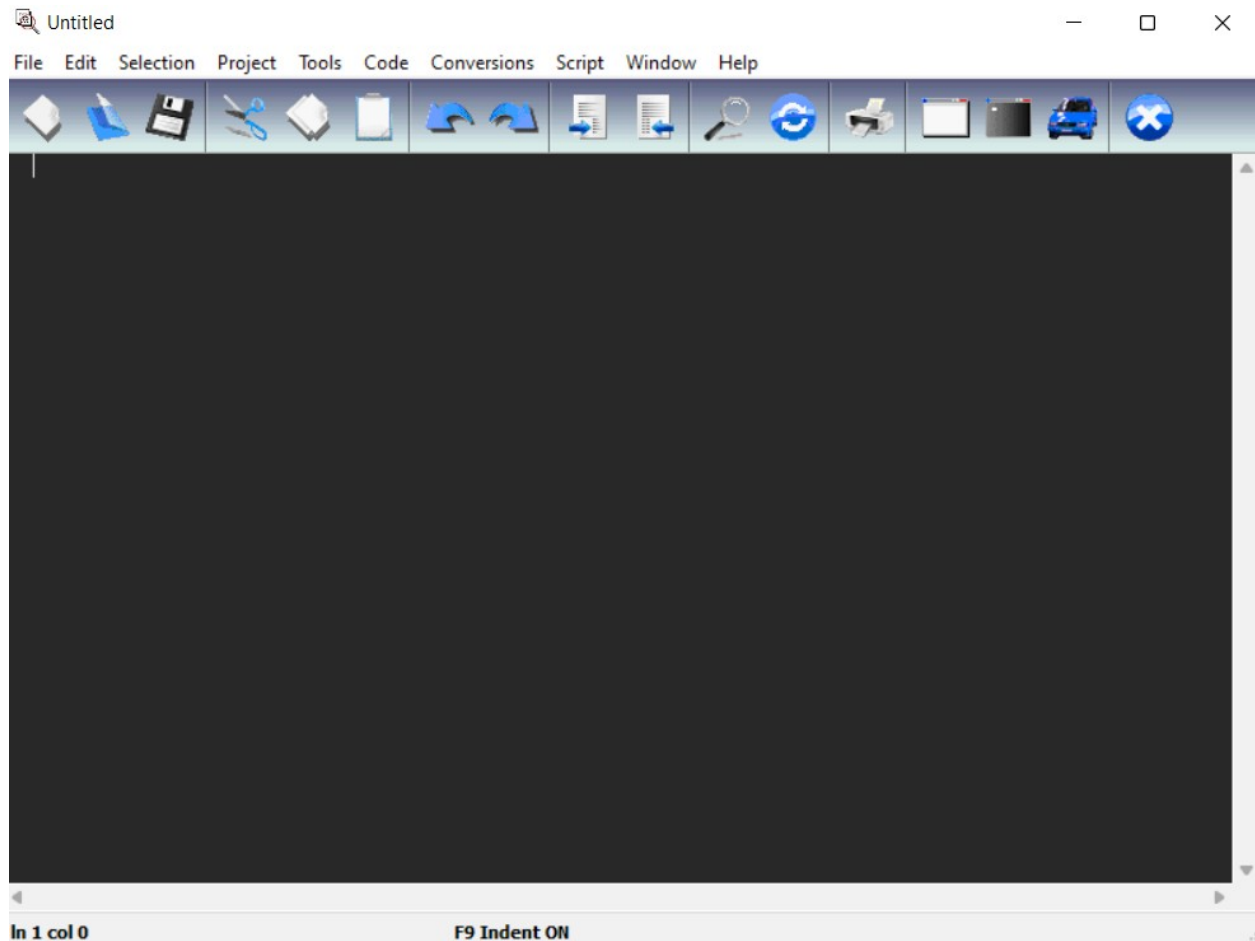
2) Dynamic Link Libraries

The Macro Assembler is able to create extremely powerful DLL files, which MASM itself, Visual C / C++ and Visual Basic as well as any other programming language can use to call DLL procedures. This allows the programmer to write computationally intensive algorithms that are extraordinarily far beyond the horizon of normal programming languages.

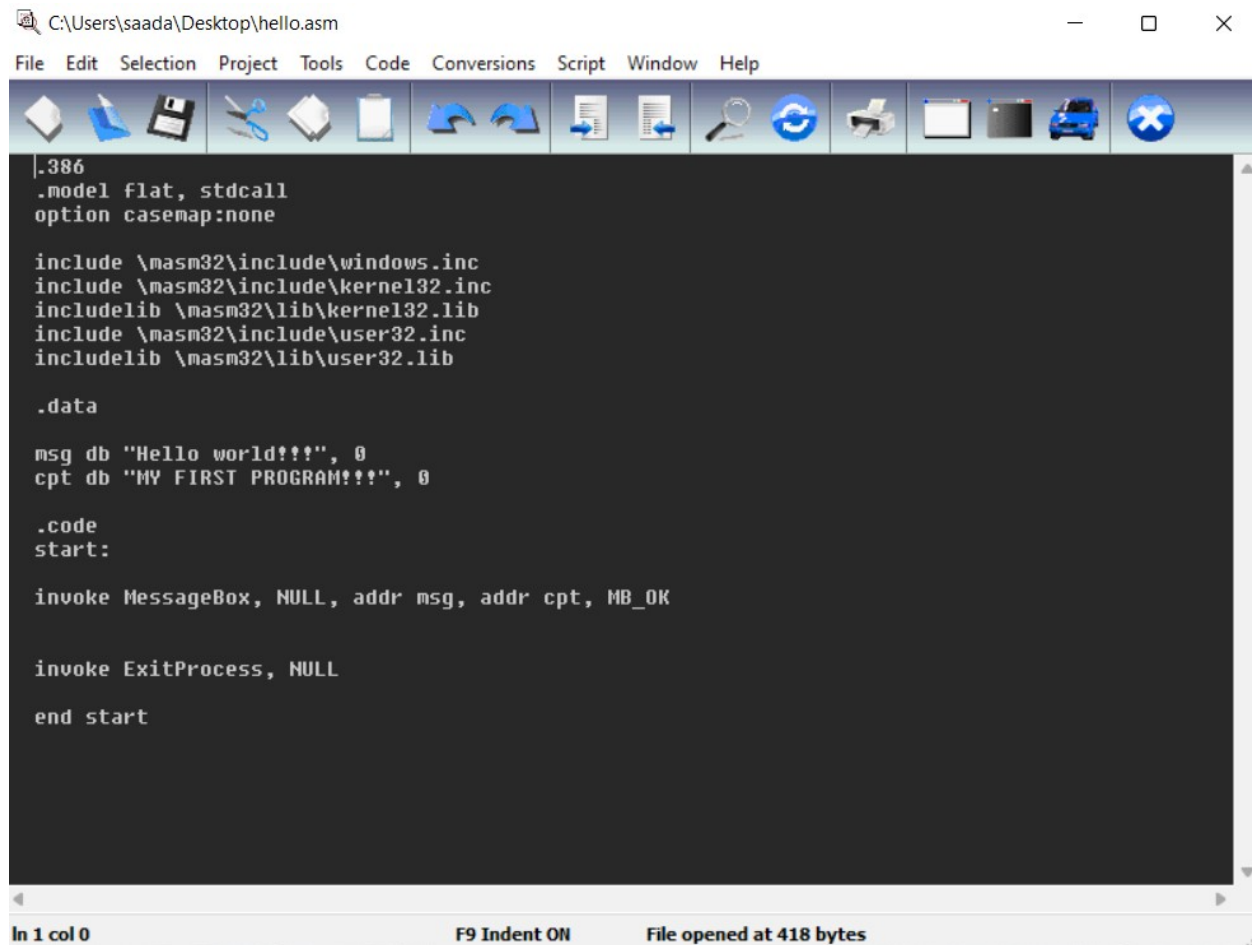
Click on **download the MASM32 package**.

Once the downloading is completed install the setup by just clicking ok.

Once the setup is installed open the MASM32 Editor from desktop.



After that we write some code in it.



The screenshot shows a Notepad++ window with the title bar "C:\Users\saada\Desktop\hello.asm". The menu bar includes File, Edit, Selection, Project, Tools, Code, Conversions, Script, Window, and Help. The toolbar contains icons for file operations (New, Open, Save, Print, Copy, Paste, Undo, Redo), editing (Find, Replace), and development (Run, Breakpoint, Macro, etc.). The main text area contains the following assembly 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

msg db "Hello world!!!", 0
cpt db "MY FIRST PROGRAM!!!", 0

.code
start:

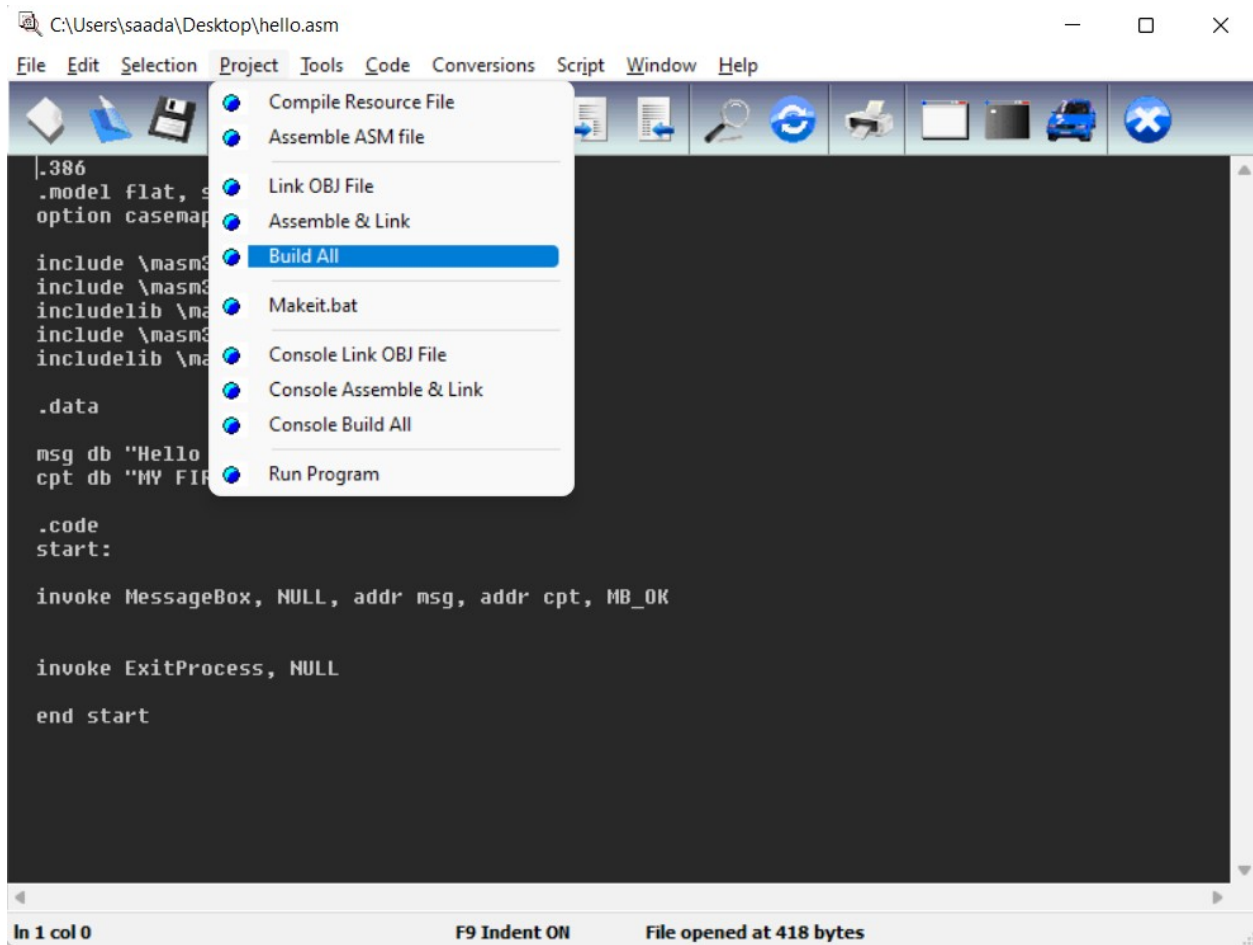
invoke MessageBox, NULL, addr msg, addr cpt, MB_OK

invoke ExitProcess, NULL

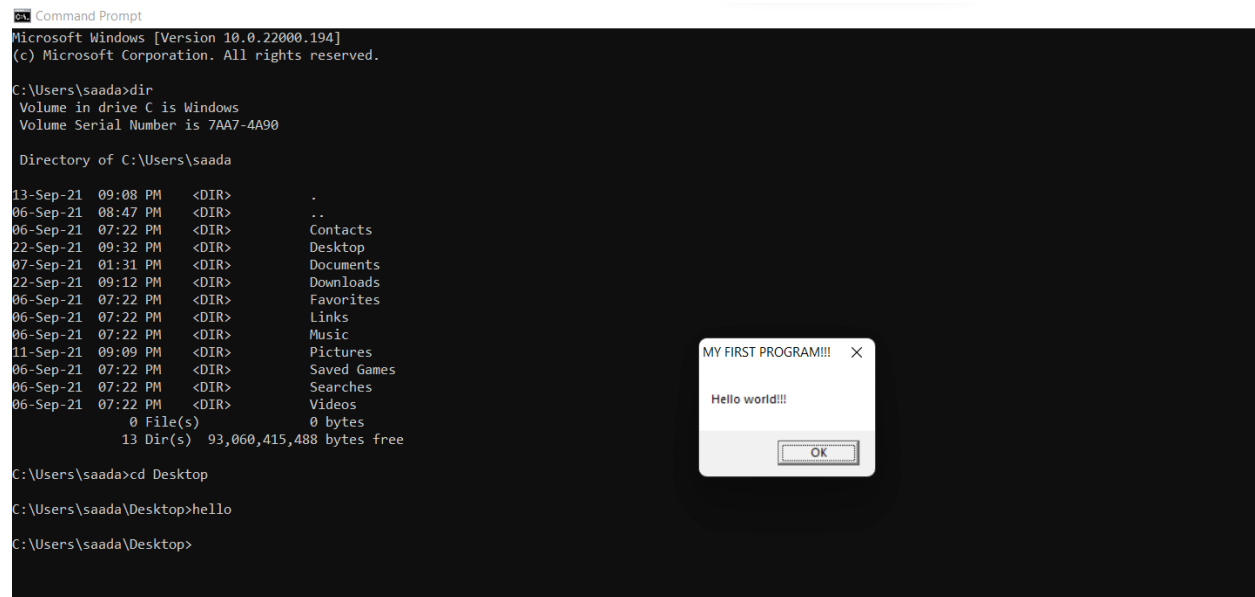
end start
```

The status bar at the bottom displays "Ln 1 col 0", "F9 Indent ON", and "File opened at 418 bytes".

Now in menu bar select **Project** tab and click on **Build All**.



Once this is done, we will open our command prompt and type some commands and after that we will run our **executable file** which was created by **build all** option in MASM32 editor.



The screenshot shows a Windows Command Prompt window with the following text:

```
Microsoft Windows [Version 10.0.22000.194]
(c) Microsoft Corporation. All rights reserved.

C:\Users\saada>dir
Volume in drive C is Windows
Volume Serial Number is 7AA7-4A90

Directory of C:\Users\saada

13-Sep-21  09:08 PM  <DIR>          .
06-Sep-21  08:47 PM  <DIR>          ..
06-Sep-21  07:22 PM  <DIR>          Contacts
22-Sep-21  09:32 PM  <DIR>          Desktop
07-Sep-21  01:31 PM  <DIR>          Documents
22-Sep-21  09:12 PM  <DIR>          Downloads
06-Sep-21  07:22 PM  <DIR>          Favorites
06-Sep-21  07:22 PM  <DIR>          Links
06-Sep-21  07:22 PM  <DIR>          Music
11-Sep-21  09:09 PM  <DIR>          Pictures
06-Sep-21  07:22 PM  <DIR>          Saved Games
06-Sep-21  07:22 PM  <DIR>          Searches
06-Sep-21  07:22 PM  <DIR>          Videos
               0 File(s)          0 bytes
               13 Dir(s) 93,060,415,488 bytes free

C:\Users\saada>cd Desktop
C:\Users\saada\Desktop>hello
C:\Users\saada\Desktop>
```

Overlaid on the right side of the Command Prompt is a small white dialog box with the title "MY FIRST PROGRAM!!!". The dialog box contains the text "Hello world!!!" and an "OK" button at the bottom.

And we will see the about dialog box as our output.