

№4

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№4.

NASM

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: [-02-25]

: [25.10.2025]

, NASM.

: 1. NASM, “Hello world!” 2.
NASM 3. LD 4.

1:

2: hello.asm

3: NASM

4: LD

5: Hello World

: 1. NASM 2. 3.
“Hello world!”

```
ssgaliev@fedora:~$ mkdir -p ~work/arch-pc/lab04
ssgaliev@fedora:~$ cd ~work/arch-pc/lab04
ssgaliev@fedora:~/~work/arch-pc/lab04$ █
```

Figure 1: lab04

1. hello.asm lab4.asm
- 2.
3. ,
4. GitHub

6: lab4.asm

7: hello.asm lab4.asm

```

ssgaliev@fedora:~/work/arch-pc/lab04$ cat hello.asm
SECTION .data
hello: DB 'Hello world!',10
helloLen: EQU $-hello

SECTION .text
GLOBAL _start

_start:

    mov eax,4
    mov ebx,1
    mov ecx,hello
    mov edx,helloLen
    int 80h

    mov eax,1
    mov ebx,0
    int 80h

```

Figure 2: hello.asm

```

ssgaliev@fedora:~/work/arch-pc/lab04$ nasm -f elf hello.asm
ssgaliev@fedora:~/work/arch-pc/lab04$ ls -l hello.o
-rw-r--r--. 1 ssgaliev ssgaliev 656 okt 25 11:21 hello.o
ssgaliev@fedora:~/work/arch-pc/lab04$ █

```

Figure 3: NASM

```

ssgaliev@fedora:~/work/arch-pc/lab04$ ld -m elf_i386 hello.o -o hello
ssgaliev@fedora:~/work/arch-pc/lab04$ ls -l hello
-rwxr-xr-x. 1 ssgaliev ssgaliev 4572 okt 25 11:22 hello
ssgaliev@fedora:~/work/arch-pc/lab04$ █

```

Figure 4: LD

```
ssgaliev@fedora:~/work/arch-pc/lab04$ ./hello
Hello world!
ssgaliev@fedora:~/work/arch-pc/lab04$
```

Figure 5:

```
ssgaliev@fedora:~/work/arch-pc/lab04$ nasm -f elf lab4.asm
ssgaliev@fedora:~/work/arch-pc/lab04$ ld -m elf_i386 lab4.o -o lab4
ssgaliev@fedora:~/work/arch-pc/lab04$ ./lab4
Samir Galiev
ssgaliev@fedora:~/work/arch-pc/lab04$
```

Figure 6: lab4.asm()

8: GitHub

```
ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$ git a
ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$ git c
eat(lab4): add assembly programs"
[master (корневой коммит) 8171c9b] feat(lab4): add assembly programs
2 files changed, 38 insertions(+)
create mode 100644 labs/lab04/hello.asm
create mode 100644 labs/lab04/lab4.asm
```

```
ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$ git push origin
master
Перечисление объектов: 13, готово.
Подсчет объектов: 100% (13/13), готово.
При сжатии изменений используется до 2 потоков
Сжатие объектов: 100% (8/8), готово.
Запись объектов: 100% (10/10), 955 байтов | 955.00 КиБ/с, готово.
Total 10 (delta 4), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (4/4), completed with 2 local objects.
To github.com:CobaltI/study_2025-2026_arch-pc.git
ff6a073..0a624fb master -> master
ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$
```

```
ssgaliev@fedora:~/~work/arch-pc/lab04$ cat lab4.asm
SECTION .data
hello: DB 'Samir Galiev',10
helloLen: EQU $-hello

SECTION .text
GLOBAL _start

_start:
    mov eax,4
    mov ebx,1
    mov ecx,hello
    mov edx,helloLen
    int 80h

    mov eax,1
    mov ebx,0
    int 80h

ssgaliev@fedora:~/~work/arch-pc/lab04$
```

Figure 7: hello.asm

<div> <div>master</div> <div>study_2025-2026_arch-pc / labs / lab04 /</div> </div> <div>Go to file</div> <div>Add file</div> <div></div>		
<div> <div>Cobalti</div> <div>Merge branch 'master' of github.com:Cobalti/study_2025-2026_arch-pc</div> <div>0a624fb · 2 minutes ago</div> <div>History</div> </div>		
Name	Last commit message	Last commit date
..		
presentation	feat(main): make course structure	last month
report	feat(main): make course structure	last month
hello.asm	feat(lab4): add assembly programs	19 minutes ago
lab4.asm	feat(lab4): add assembly programs	19 minutes ago

hello.asm ““`nasm ; hello.asm SECTION .data hello: DB ‘Hello world!’,10 helloLen: EQU $-hello`

`SECTION .text GLOBAL __start`

`__start: mov eax,4 mov ebx,1 mov ecx,hello mov edx,helloLen int 80h`

`mov eax,1`

`mov ebx,0`

`int 80h`

NASM.

1. NASM

The NASM Documentation. — URL: <https://www.nasm.us/docs.php>

NASM

2. NASM OpenNet

: NASM. — URL: <https://www.opennet.ru/docs/RUS/nasm/>

3. GNU LD

GNU LD Manual. — URL: <https://sourceware.org/binutils/docs/ld/>

LD

4. ASMTutor

NASM Assembly Language Tutorials. — URL: <https://asmtutor.com/>

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5. ... - **NASM**
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NASM OC Unix. — 2- . — .: , 2011. — URL:
http://www.stolyarov.info/books/asm_unix
NASM Unix-