№4 [ ] oday

**№4.**: [ ]

: [ -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$
```

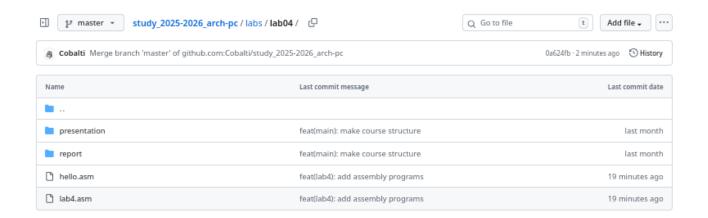
Figure 6: lab4.asm(

```
ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$ git a ssgaliev@fedora:~/work/study/2025-2026/Архитектура компьютера/arch-pc$ git ceat(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
```

```
8: GitHub Create mode 100044 tabs/tab04/tab4.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



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.phpNASM

- 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/ NASM