

سوال ۲:

برای مشخص شدن نوع فایل از دستور file استفاده میکنیم:

```
mohammad@Nikooo in repo: OSLab-Spring2023/HW1/OSL-HW-1-G-5/2 on P main [?] via C v13.1.1-gcc took 1ms
└─ ls
.rw-r--r--@ 67 mohammad  5 May 21:05  code_c.c

mohammad@Nikooo in repo: OSLab-Spring2023/HW1/OSL-HW-1-G-5/2 on P main [?] via C v13.1.1-gcc took 3ms
└─ file code_c.c
code_c.c: C source, ASCII text
```

فایل code_c.c همان فایل زبان سی در تمرین قبل است که با دستور file نوع آن مشخص شد.

```
mohammad@Nikooo in repo: OSLab-Spring2023/HW1/OSL-HW-1-G-5/2 on P main [?] via C v13.1.1-gcc took 1ms
└─ mv code_c.c code_c

mohammad@Nikooo in repo: OSLab-Spring2023/HW1/OSL-HW-1-G-5/2 on P main [?] took 1ms
└─ ls
.rw-r--r--@ 67 mohammad  5 May 21:05  code_c

mohammad@Nikooo in repo: OSLab-Spring2023/HW1/OSL-HW-1-G-5/2 on P main [?] took 4ms
└─ file code_c
code_c: C source, ASCII text
```

حالا پسوند آن را برمیداریم و دوباره امتحان میکنیم.
میبینیم که دوباره همان نتیجه را نمایش داد چون در لینوکس اهمیتی ندارد که ما پسوند فایل را مشخص کنیم. خود آن تشخیص میدهد.
روش عملکرد file از طریق انجام تعدادی تست و بررسی magic number هاست و نیازی به دانستن پسوند فایلها ندارد. که این باعث می شود این ابزار برای بررسی نوع فایلها بسیار مفید باشد

```
bash ~
aarmn ~ gcc v12.2.0 v3.11.1 21:02 bsh 1 26ms 0
file --help
Usage: file [OPTION...] [FILE...]
Determine type of FILES.

    --help                display this help and exit
    -v, --version          output version information and exit
    -m, --magic-file LIST  use LIST as a colon-separated list of magic
                           number files
    -z, --uncompress       try to look inside compressed files
    -Z, --uncompress-noreport only print the contents of compressed files
    -b, --brief            do not prepend filenames to output lines
    -c, --checking-printout print the parsed form of the magic file, use in
                           conjunction with -m to debug a new magic file
                           before installing it
    -e, --exclude TEST     exclude TEST from the list of test to be
                           performed for file. Valid tests are:
                           apptype, ascii, cdf, compress, csv, elf,
                           encoding, soft, tar, json, text,
                           tokens
    --exclude-quiet TEST   like exclude, but ignore unknown tests
    -f, --files-from FILE  read the filenames to be examined from FILE
    -F, --separator STRING use string as separator instead of ':'
    -i, --mime             output MIME type strings (--mime-type and
                           --mime-encoding)
    --apple               output the Apple CREATOR/TYPE
    --extension           output a slash-separated list of extensions
    --mime-type            output the MIME type
    --mime-encoding       output the MIME encoding
    -k, --keep-going       don't stop at the first match
    -l, --list             list magic strength
    -L, --dereference       follow symlinks
    -h, --no-dereference   don't follow symlinks (default)
    -n, --no-buffer        do not buffer output
    -N, --no-pad           do not pad output
    -0, --print0           terminate filenames with ASCII NUL
    -p, --preserve-date    preserve access times on files
    -P, --parameter        set file engine parameter limits
                           bytes 1048576 max bytes to look inside file
                           elf_notes 256 max ELF notes processed
                           elf_phnum 2048 max ELF prog sections processed
                           elf_shnum 32768 max ELF sections processed
                           encoding 65536 max bytes to scan for encoding
                           indir 50 recursion limit for indirection
                           name 50 use limit for name/use magic
                           regex 8192 length limit for REGEX searches
    -r, --raw             don't translate unprintable chars to \ooo
    -s, --special-files    treat special (block/char devices) files as
                           ordinary ones
    -S, --no-sandbox      disable system call sandboxing
    -C, --compile          compile file specified by -m
    -d, --debug           print debugging messages
```