

CS-1217: Operating Systems

Assignment 1

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1 Answers

1a. The `#include` command is a directive to the preprocessor that tells the compiler to include a header file in the program.

1b. The `stdio.h` file used with the `#include` function is a directive to the preprocessor that tells the compiler to include a header file "stdio.h" in the program. This specific header file stands for standard input output and its use is to take inputs from the keyboard and output them on a screen or monitor.

2.

```
(base) Tanuj-MacBook-Pro:Assignment 1 tanuj$ gcc -v myhello.c
Apple LLVM version 10.0.0 (clang-1000.10.44.4)
Target: x86_64-apple-darwin17.7.0
Thread model: posix
InstalledDir: /Library/Developer/CommandLineTools/usr/bin
"/Library/Developer/CommandLineTools/usr/bin/clang" -cc1 -triple x86_64-apple-macosx10.13.0 -Wdeprecated-objc-isa-usage -Werror=deprecated-objc-isa-usage -emit-obj -mrelax-all -disable-free -disable-llvm-verifier -discard-value-names -main-file-name myhello.c -mrelocation-model pic -pic-level 2 -mthread-model posix -mdisable-fp-elim -fno-strict-return -masm-verbose -munwind-tables -target-cpu penryn -dwarf-column-info -debugger-tuning=lldb -target-linker-version 409.12 -v -resource-dir /Library/Developer/CommandLineTools/usr/lib/clang/10.0.0 -fdebug-compilation-dir /Users/tanuj/Desktop/OS/Assignment 1 -ferror-limit 19 -fmessage-length 80 -stack-protector 1 -fblocks -fencode-extended-block-signature -fobjc-runtime-macosx-10.13.0 -fmax-type-align=16 -fdiagnostics-show-option -fcolor-diagnostics -o /var/folders/_/3_65x4wd4f97vmmx4xc3zyd80000gn/T/myhello-e84441.o -x c myhello.c
clang -cc1 version 10.0.0 (clang-1000.10.44.4) default target x86_64-apple-darwin17.7.0
#include "..." search starts here:
#include <...> search starts here:
 /usr/local/include
 /Library/Developer/CommandLineTools/usr/lib/clang/10.0.0/include
 /Library/Developer/CommandLineTools/usr/include
 /usr/include
 /System/Library/Frameworks (framework directory)
 /Library/Frameworks (framework directory)
End of search list.
"/Library/Developer/CommandLineTools/usr/bin/ld" -demangle -lto_library /Library/Developer/CommandLineTools/usr/lib/libLT0.dylib -no_deduplicate -dynamic -arch x86_64 -macosx_version_min 10.13.0 -o a.out /var/folders/_/3_65x4wd4f97vmmx4xc3zyd80000gn/T/myhello-e84441.o -lSystem /Library/Developer/CommandLineTools/usr/lib/clang/10.0.0/lib/darwin/libclang_rt.osx.a
```

3. The `./` symbol tells the compiler that the program file that we're trying to run is located in the current directory.

4.

Running the `make` command doesn't recompile if no changes are made to the source files. In the case that only a single source file is changed, the `make` command will only recompile these changed files and the files that are associated with it.

5.