

00 Get tutorial files

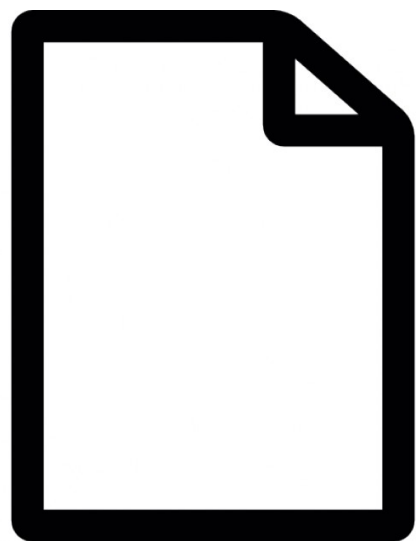
01 Main Code

jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/01_build

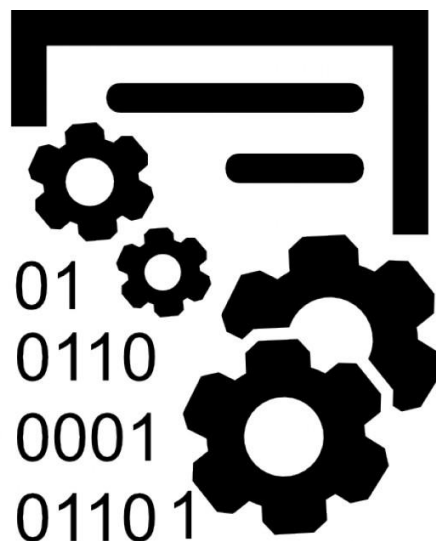
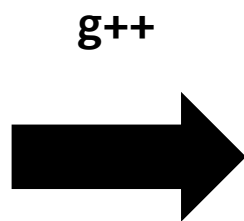
```
jacob@boltzmann:~/repos$ git clone https://github.com/yoongu/Mozart.git
Cloning into 'Mozart'...
Username for 'https://github.com': yoongu
Password for 'https://yoongu@github.com':
remote: Counting objects: 618, done.
remote: Total 618 (delta 0), reused 0 (delta 0), pack-reused 618
Receiving objects: 100% (618/618), 3.66 MiB | 707.00 KiB/s, done.
Resolving deltas: 100% (324/324), done.
Checking connectivity... done.
jacob@boltzmann:~/repos$ cd Mozart/
jacob@boltzmann:~/repos/Mozart$ ls
doc  LICENSE  README.md  src
jacob@boltzmann:~/repos/Mozart$ cd src/cpp/basic_cpp/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 01_build/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$
```

jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/01_build

```
jacob@boltzmann:~/repos$ git clone https://github.com/yoongu/Mozart.git
Cloning into 'Mozart'...
Username for 'https://github.com': yoongu
Password for 'https://yoongu@github.com':
remote: Counting objects: 618, done.
remote: Total 618 (delta 0), reused 0 (delta 0), pack-reused 618
Receiving objects: 100% (618/618), 3.66 MiB | 707.00 KiB/s, done.
Resolving deltas: 100% (324/324), done.
Checking connectivity... done.
jacob@boltzmann:~/repos$ cd Mozart/
jacob@boltzmann:~/repos/Mozart$ ls
doc  LICENSE  README.md  src
jacob@boltzmann:~/repos/Mozart$ cd src/cpp/basic_cpp/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 01_build/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$ ls
hello.cpp  Makefile
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$ g++ hello.cpp -o hello
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$ ./hello
Hello, world!
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$
```



hello.cpp



hello

./hello




02 Library by Source Code

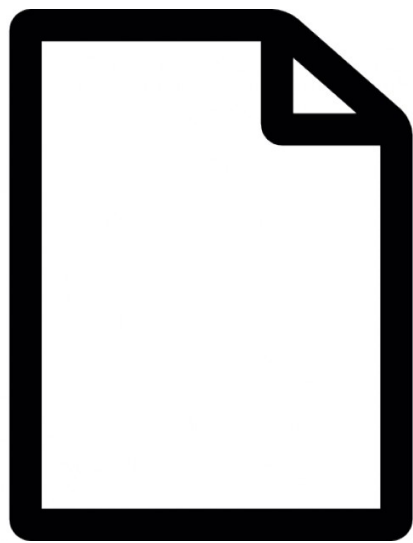
 jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src



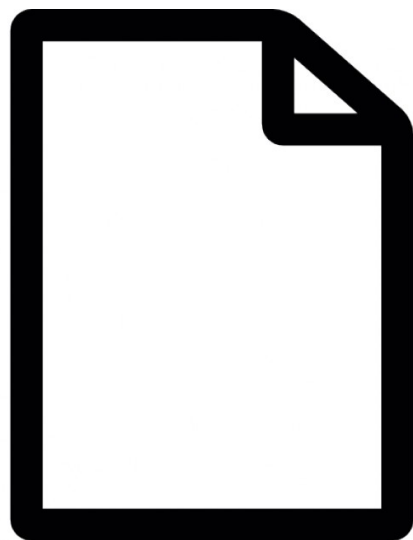
```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$ cd ..  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 02_library_by_src/  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ █
```

 jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src

```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/01_build$ cd ..
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 02_library_by_src/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ ls
main.cpp  Makefile  yfem.cpp  yfem.h
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ g++ main.cpp
yfem.cpp -o main.x
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ ./main.x
Hello, world!
library is called.
Bye, world!
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$
```

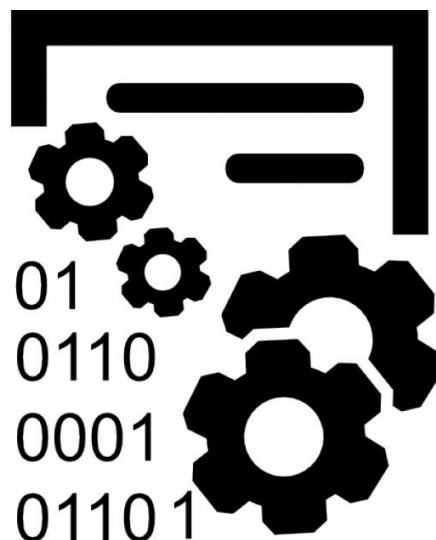
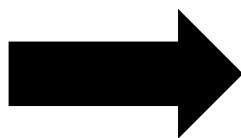



main.cpp



yfem.h
yfem.cpp

g++



main.x

./main.x



03 Static Library




jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/03_static_library



```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ cd ..
```

```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 03_static_library/
```

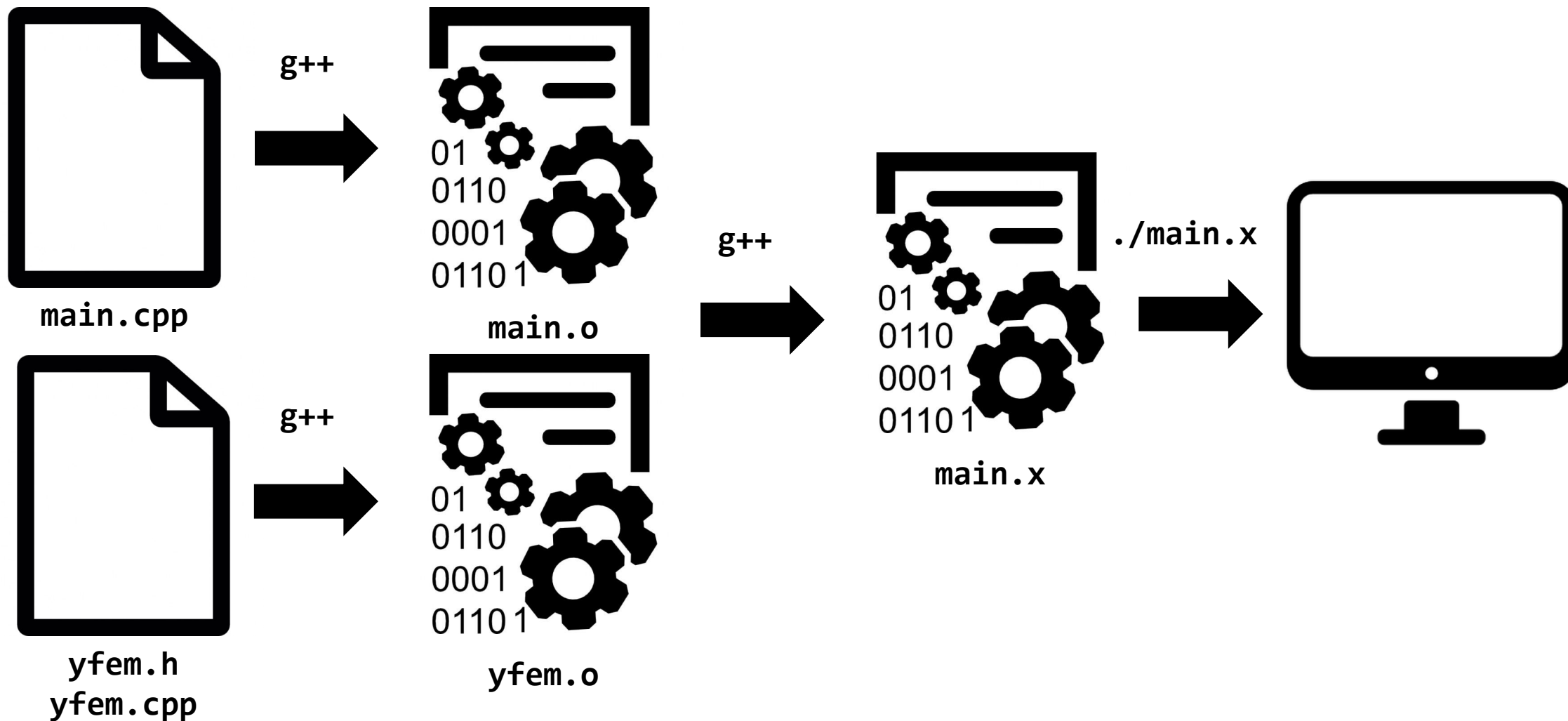
```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$
```

 jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/03_static_library


```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ cd ..
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 03_static_library/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ ls
main.cpp  Makefile  yfem.cpp  yfem.h
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ make
g++      -c -o main.o main.cpp
g++      -c -o yfem.o yfem.cpp
g++ main.o yfem.o -o main.x
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$
```

jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/03_static_library

```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/02_library_by_src$ cd ..
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 03_static_library/
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ ls
main.cpp  Makefile  yfem.cpp  yfem.h
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ make
g++      -c -o main.o main.cpp
g++      -c -o yfem.o yfem.cpp
g++ main.o yfem.o -o main.x
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ ./main.x
Hello, world!
library is called.
Bye, world!
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$
```



04 Dynamic Library

 jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library




```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/03_static_library$ cd ..  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 04_dynamic_library/  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$
```




jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library



```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ cd ..  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 04_dynamic_library/  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ g++ -c -fpi  
c yfem.cpp -o yfem.o  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$
```

 jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library

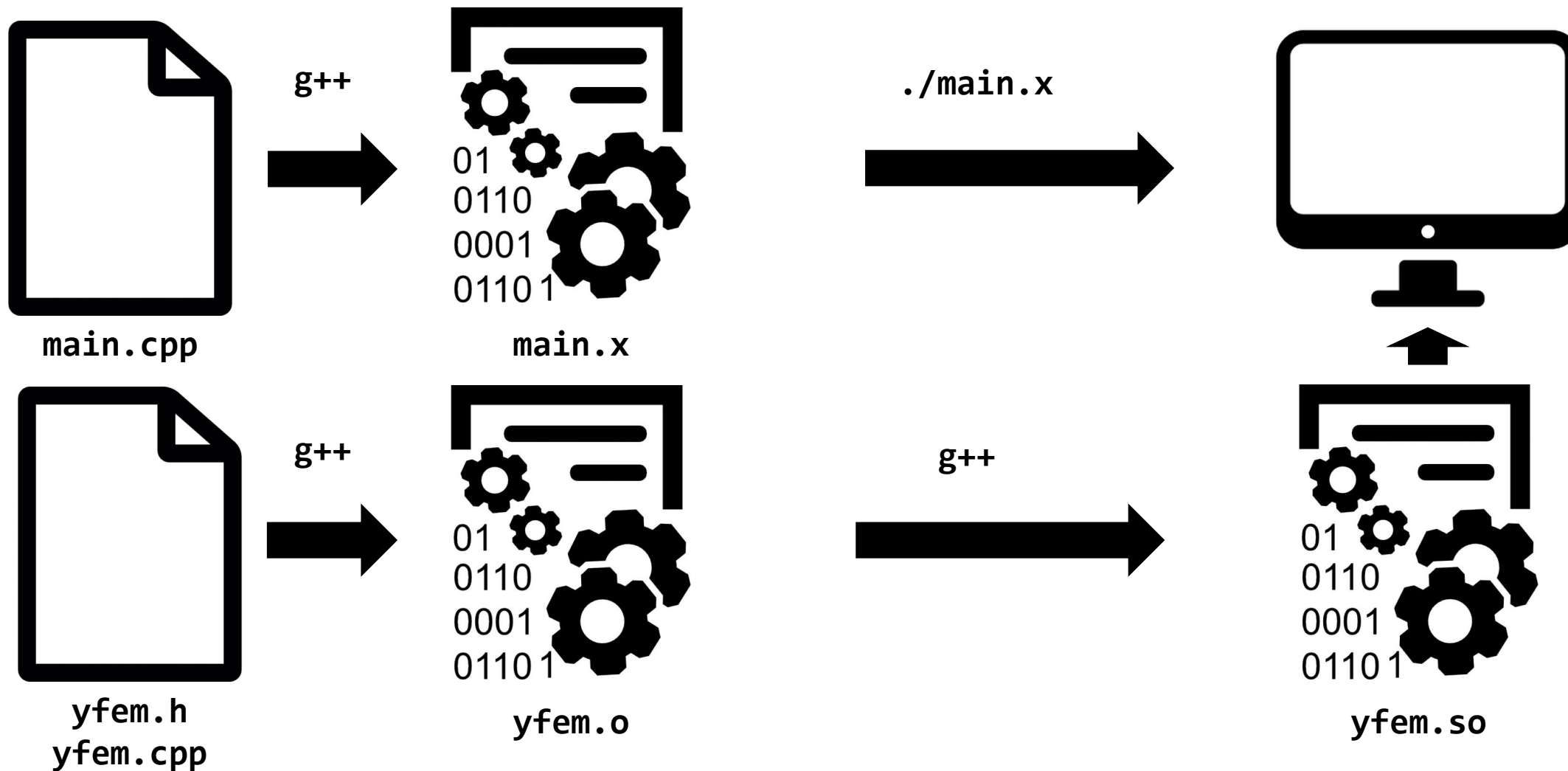
```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ cd ..  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp$ cd 04_dynamic_library/  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ g++ -c -fpic  
yferm.cpp -o yferm.o  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ g++ -shared  
-fpic yferm.o -o libyferm.so  
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$
```



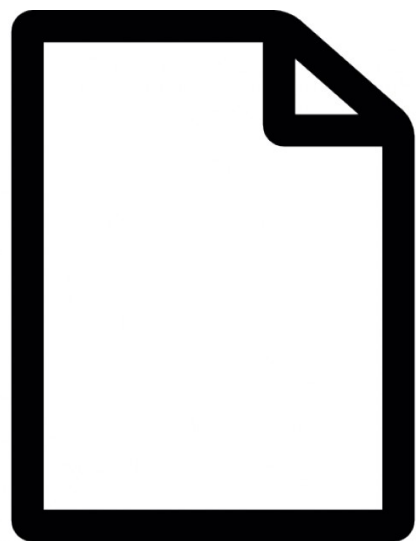
jacob@boltzmann: ~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library



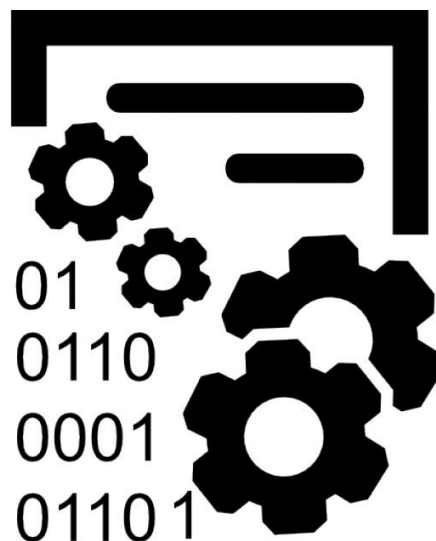
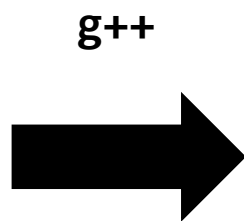
```
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ g++ main.cpp -ldl -o main.x
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$ ./main.x
Hello, world!
library is called.
Bye, world!
jacob@boltzmann:~/repos/Mozart/src/cpp/basic_cpp/04_dynamic_library$
```



Summary



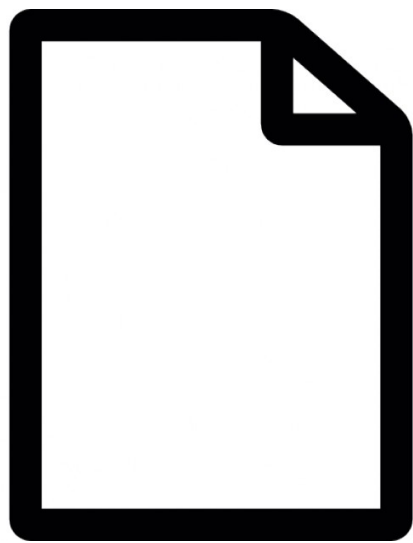
hello.cpp



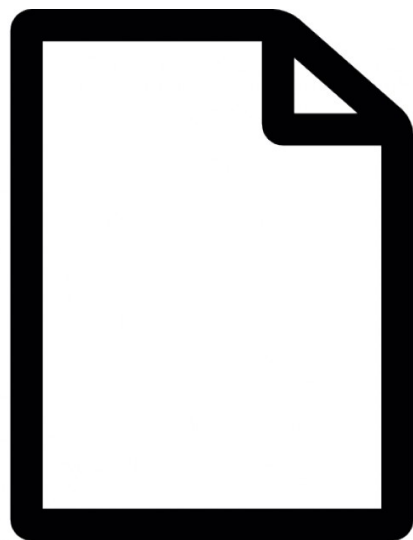
hello

./hello

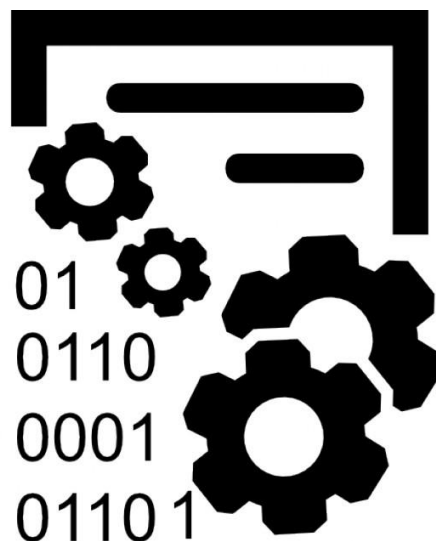
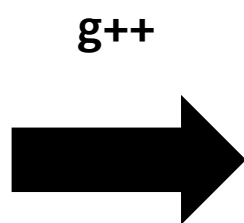




main.cpp



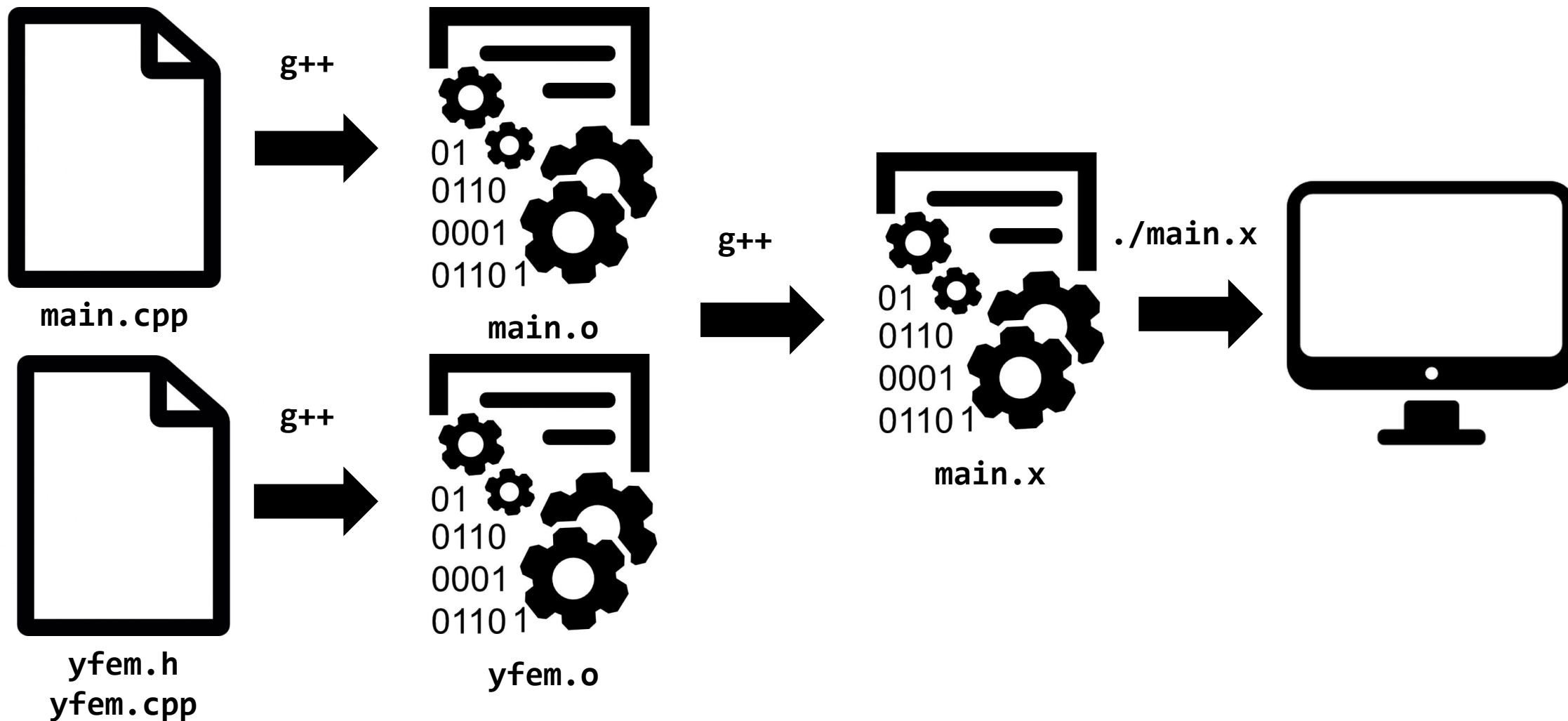
yfem.h
yfem.cpp

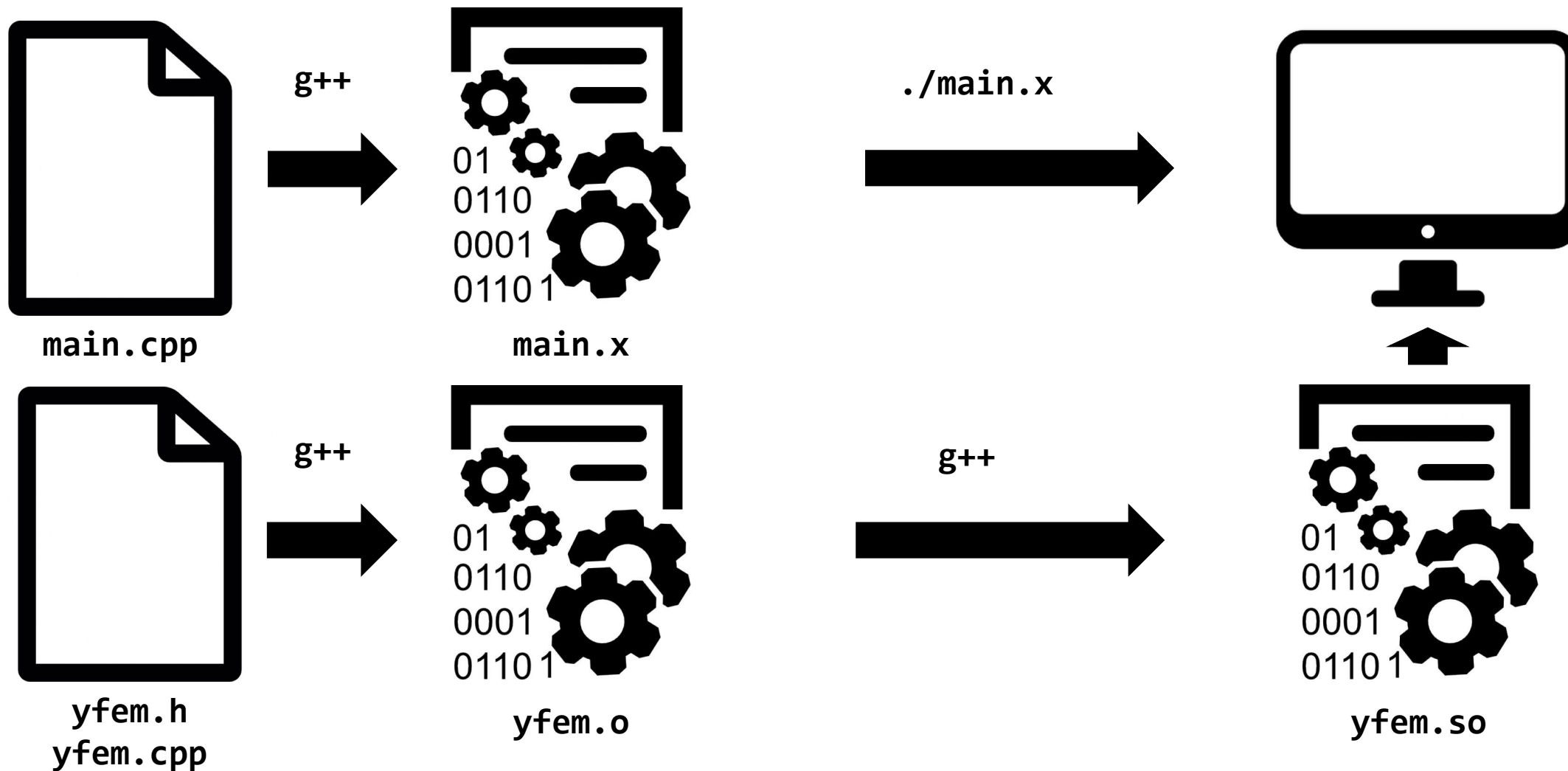


main.x

./main.x







Small Mission

Newton library

- Files
 - main.cpp
 - newton.h
 - newton.cpp
- 3 types
 - source
 - static library
 - dynamic library