

CS302: Lab2 Report

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Answer 1

```
1  #include <stdio.h>
2  #include <math.h>
3
4  int main(){
5      printf("%lf\n",sqrt(2));
6  }
7
```

图 1: Q1 内容

```
ldy12011537@ludiyun-R0G:~/Desktop/OSLab/lab2$ gcc Q1.c
ldy12011537@ludiyun-R0G:~/Desktop/OSLab/lab2$ file a.out
a.out: ELF 64-bit LSB pie executable, x86-64, version 1 (SYSV),
dynamically linked, interpreter /lib64/ld-linux-x86-64.so.2, B
uildID[sha1]=aecb98d4eaa49823d66615ed95de43f3b13c1ed, for GNU/
Linux 3.2.0, not stripped
ldy12011537@ludiyun-R0G:~/Desktop/OSLab/lab2$ ./a.out
1.414214
ldy12011537@ludiyun-R0G:~/Desktop/OSLab/lab2$
```

图 2: gcc:Q1

Answer 2

```
1  #include <stdio.h>
2
3  int main(){
4      printf("12011537ludiyun\n");
5  }
```

图 3: Q2 内容

```
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ gcc -c Q2.c
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ gcc -o Q2 Q2.o
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ ./Q2.o
bash: ./Q2.o: Permission denied
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ ./Q2
12011537ludiyun
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$
```

图 4: gcc:Q2

Answer 3

C 语言的编译过程：系统进行预处理，编译和优化，汇编，链接，最终生成一个可执行文件

Answer 4

可执行文件格式：

Windows:PE, Linux:ELF

Answer 5

```
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ vim makefile
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ make file1
gcc -c Q1.c
gcc -o Q1 Q1.o
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ make file2
gcc -c Q2.c
gcc -o Q2 Q2.o
```

图 5: makefile

```
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ ./Q1
1.414214
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$ ./Q2
12011537ludiyun
(base) ldy12011537@ludiyun-ROG: ~/Desktop/OSlab/lab2$
```

图 6: Q1, Q2 执行结果

Answer 6

`#define MUL(x) (x)*(x)` , `MUL(6+3)`:

`(6+3)*(6+3)=81`

```
#define MUL(x) x*x , MUL(6+3):  
6+3*6+3=27
```