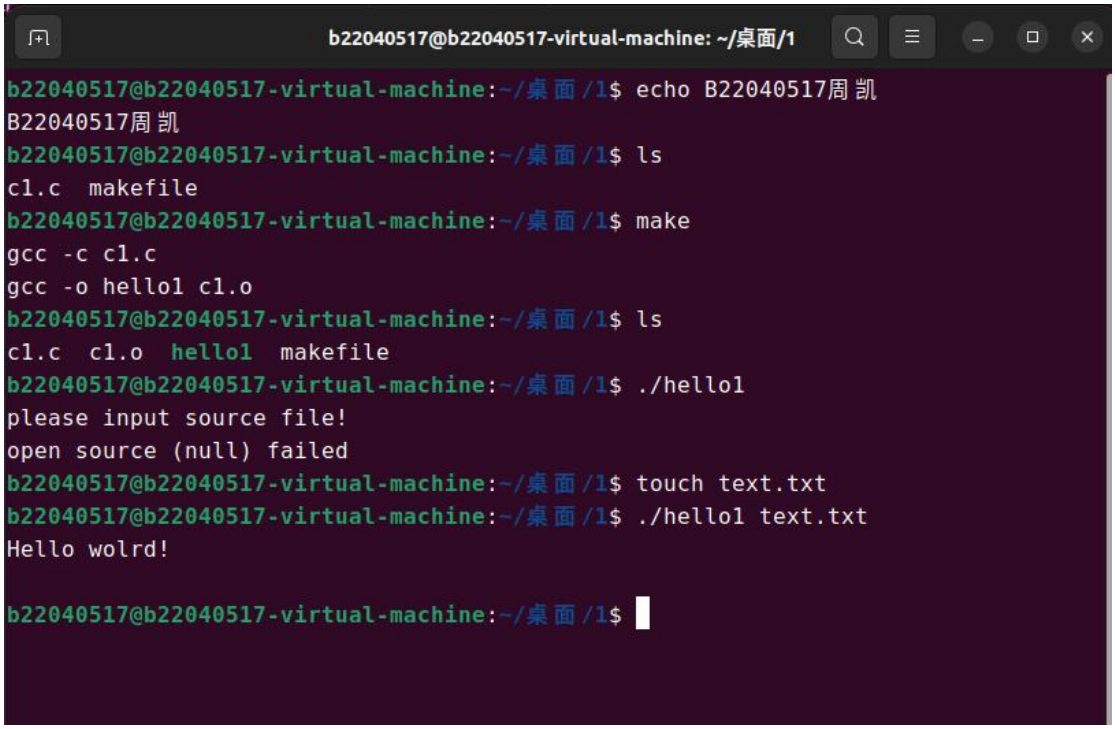
(1) Task 1

(1) Write a C program that uses standard I/O libraries to display the contents of text files. The program is
compiled and linked by the make tool, which requires the generation of the.o file first, and then the generation
of the executable file, and the function of deleting the intermediate file (.o) in the makefile file.

```
#include <stdio.h>
int main(int argc, char* argv[])
{
char buf[1024] = { 0 };
FILE* fp = fopen(argv[1],"r");
if (argc < 2)
{
printf("please input source file!\n");
}
if (fp == NULL)
{
printf("open source %s failed\n", argv[1]);
return -1;
}
while (fgets(buf,1024, fp))
{
printf("%s\n", buf);
}
return 0;
}
```

Make sure your filename is c1.c
We can use the following makefile.

```
hello1:c1.o
gcc -o hello1 c1.o
c1.o:c1.c
gcc -c c1.c
clean:
rm -rf *.o
```



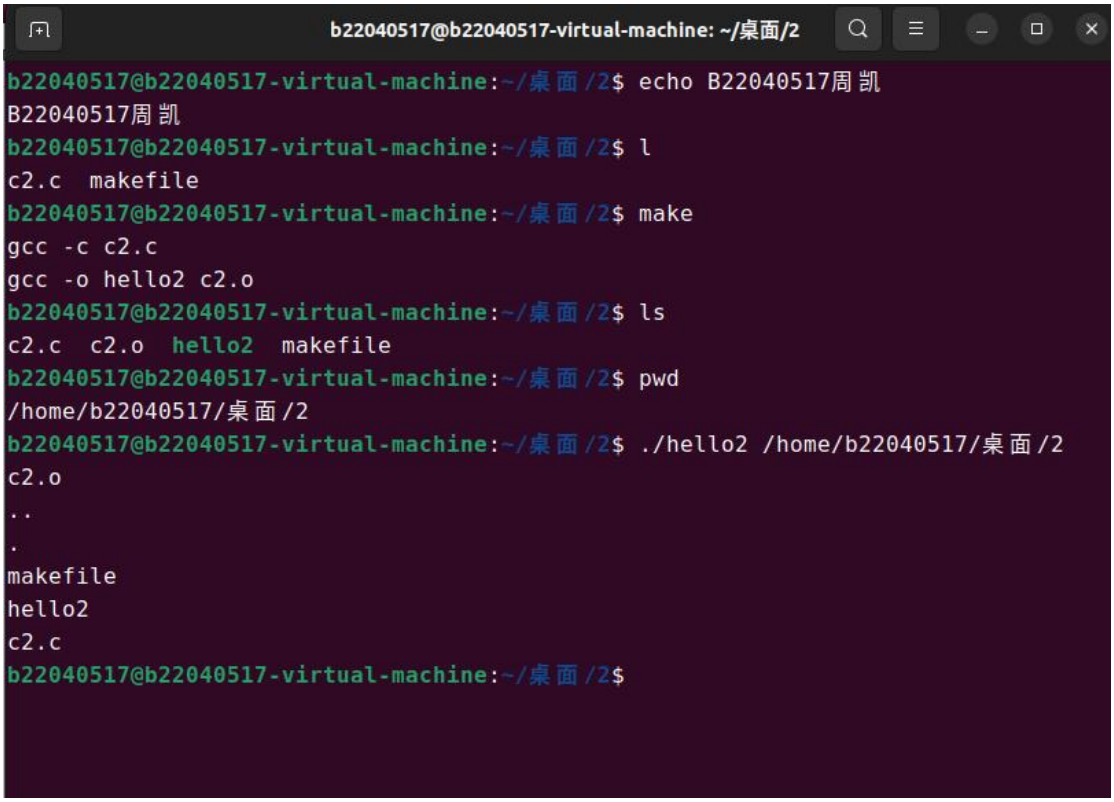
(2) Task 2(2) Write a C program that displays all the file names in the current

directory. The program is compiled and
linked by the make tool, which requires the generation of the.o file first, and then the generation of the
executable file, and the function of deleting the intermediate file (.o) in the makefile file.

```
include <stdio.h>
include <dirent.h>
include <sys/types.h>
int main(int argc, char* argv[])
{
DIR* dirp;
struct dirent* direntp;
if ((dirp = opendir(argv[1])) == NULL) {
printf("error\n");
// exit(1);
}
while ((direntp = readdir(dirp)) != NULL)
printf("%s\n", direntp->d_name);
closedir(dirp);
// exit(0);
}
```

Make sure your filename is c2.c
We can use the following makefile.

```
hello2:c2.o
gcc -o hello1 c2.o
c2.o:c2.c
gcc -c c2.c
clean:
rm -rf *.o
```



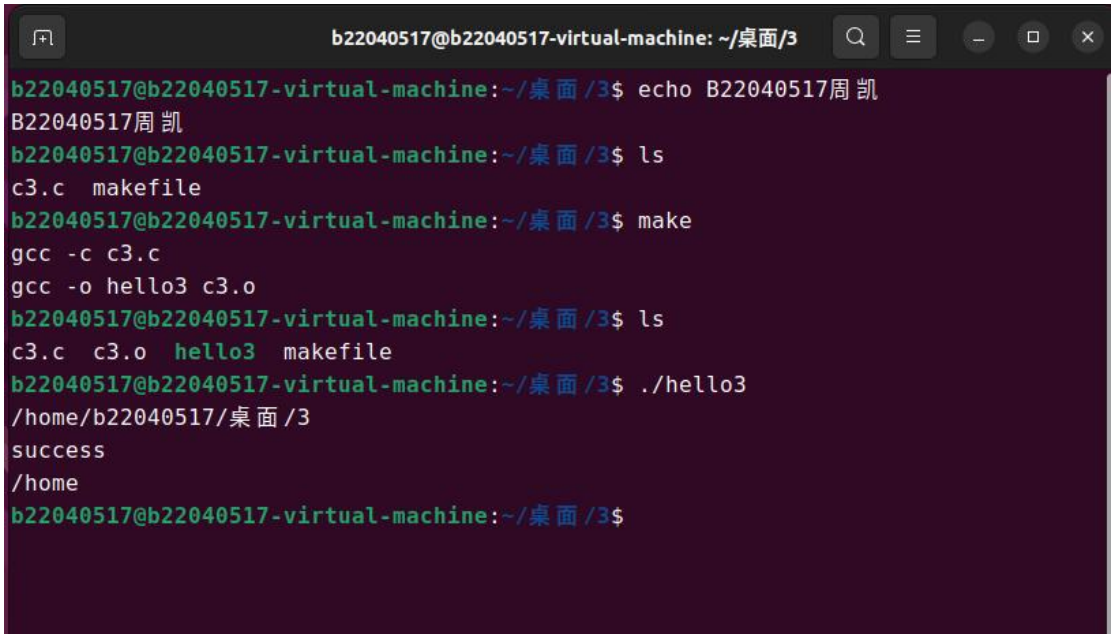
(3) Task 3

(3) Write a C program that changes the working directory of the current process. The program is compiled
and linked by the make tool, which requires the generation of the.o file first, and then the generation of the
executable file, and the function of deleting the intermediate file (.o) in the makefile file.

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
int main(){
char buf[1024] = {0}; char buf2[1024]={0};
getcwd(buf, 1024);
printf("%s\n", buf);
if(chdir("/home")<0){
printf("error\n");
}
else
{
printf("success\n");
}
getcwd(buf2,1024);
printf("%s\n",buf2);
return 0;
}
```

Make sure your filename is c3.c
We can use the following makefile.

```
hello3:c3.o
gcc -o hello1 c3.o
c3.o:c3.c
gcc -c c3.c
clean:
rm -rf *.o
```


b22040517@b22040517-virtual-machine: ~/桌面/3
b22040517@b22040517-virtual-machine:~/桌面/3$ echo B22040517周凯
B22040517周凯
b22040517@b22040517-virtual-machine:~/桌面/3$ ls
c3.c makefile
b22040517@b22040517-virtual-machine:~/桌面/3$ make
gcc -c c3.c
gcc -o hello3 c3.o
b22040517@b22040517-virtual-machine:~/桌面/3$ ls
c3.c c3.o hello3 makefile
b22040517@b22040517-virtual-machine:~/桌面/3$ ./hello3
/home/b22040517/桌面/3
success
/home
b22040517@b22040517-virtual-machine:~/桌面/3$