

1.

### Part a)

```
.:  
bin inc obj src  
./bin:  
./inc:  
progtools.h  
./obj:  
./src:  
progtools.c simpleprog.c
```

### Part b)

```
gcc -I./inc -c -o obj/simpleprog.o src/simpleprog.c  
gcc -I./inc -c -o obj/progtools.o src/progtools.c  
gcc -o bin/simpleprog ./obj/simpleprog.o ./obj/progtools.o
```

```
.:  
Makefile bin inc obj src  
./bin:  
simpleprog  
./inc:  
progtools.h  
./obj:  
progtools.o simpleprog.o  
./src:  
progtools.c simpleprog.c
```

```
main  
tool1 hello from main
```

### Part c)

```
Makefile bin inc obj src  
./bin:  
simpleprog  
./inc:  
progtools.h  
./obj:  
./src:  
progtools.c simpleprog.c
```

```
gcc -I./inc -c -o obj/simpleprog.o src/simpleprog.c  
gcc -I./inc -c -o obj/progtools.o src/progtools.c  
gcc -o bin/simpleprog ./obj/simpleprog.o ./obj/progtools.o
```

```
.:  
Makefile bin inc obj src  
  
./bin:  
simpleprog  
  
./inc:  
progtools.h  
  
./obj:  
progtools.o simpleprog.o  
  
./src:  
progtools.c simpleprog.c
```

2.

a)

```
[sraj28@general4 ~]$ vi hello220.sh
[sraj28@general4 ~]$ chmod +x create.sh
chmod: cannot access 'create.sh': No such file or directory
[sraj28@general4 ~]$ chmod +x hello220.sh
[sraj28@general4 ~]$ ./hello220.sh sr 4
./hello220.sh: line 8: dirName: command not found
./hello220.sh: line 9: numFiles: command not found
mkdir: cannot create directory '': No such file or directory
./hello220.sh: line 14: touch/file_1.txt: No such file or directory
Created file : /file_1.txt
Created files in .
[sraj28@general4 ~]$ vi hello220.sh
[sraj28@general4 ~]$ chmod +x hello220.sh
[sraj28@general4 ~]$ ./create.sh a2 4
-bash: ./create.sh: No such file or directory
[sraj28@general4 ~]$ ./hello220.sh a2 4
Created file: a2/file_1.txt
Created file: a2/file_2.txt
Created file: a2/file_3.txt
Created file: a2/file_4.txt
Created 4 files in a2.
[sraj28@general4 ~]$ ls a2
file_1.txt file_2.txt file_3.txt file_4.txt
[sraj28@general4 ~]$
```

```
vi hello220.sh
#!/bin/bash
if [ "$#" -ne 2 ]; then
    echo "Usage: $0 <directory_name> <number_of_files>"
    exit 1
fi
dir_name $1 #
num_files $2 #
mkdir -p "$dir_name"
for i in $(seq 1 $num_files) do
    touch "$dir_name/file_${i}.txt"
    echo "Created file: $dir_name/file_${i}.txt"
done
echo "Created $num_files files in $dir_name."
```

b)

```
[sraj28@general4 ~]$ vi copy.sh
[sraj28@general4 ~]$ chmod +x copy.sh
[sraj28@general4 ~]$ mkdir b
[sraj28@general4 ~]$ ./copy.sh a b
./copy.sh: line 8: src_dir: command not found
./copy.sh: line 9: tgt_dir: command not found
mkdir: cannot create directory '': No such file or directory
cp: target " " is not a directory
Files copied from  to  on Fri Sep 20 00:29:43 MST 2024
[sraj28@general4 ~]$ $vi copy.sh
-bash: copy.sh: command not found
[sraj28@general4 ~]$ vi copy.sh
[sraj28@general4 ~]$ chmod +x copy.sh
[sraj28@general4 ~]$ ./copy.sh a2 b
```

Files copied from a2 to b on Fri Sep 20 00:29:43 MST 2024

[sraj28@general4 ~]\$ ls b

file\_1.txt file\_2.txt file\_3.txt file\_4.txt

vi copy.sh

```
#!/bin/bash
```

```
if [ "$#" -ne 2 ]; then
```

```
    echo "Usage: $0 <sourceDirectory> <targetDirectory>"
```

```
    exit 1
```

```
fi
```

```
src_dir $1
```

```
tgt_dir $2
```

```
mkdir -p "$tgt_dir"
```

```
"$src_dir" "$tgt_dir"
```

```
echo "Files copied from $src_dir to $tgt_dir on $(date)"
```