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Activity No.: 3

1. Creating main_prathamesh.c file

```c
#include <stdio.h>
#include "help.h"

void main()
{
char n;

printf("Hello World");
printf("\nType h to invoke help");
scanf("%c",&n);
printf("\n");

if (n=='h')
{
help();
}

}
```

2. Creating help.h file

```c
void help(void); //header file is created
```

3. Creating help.c file

```c
#include <stdio.h>

#include "help.h"
void help()
{
printf("you are in the help");
return;
}
```

4. Creating make file

```makefile
all: main_prathamesh.o help.o
        gcc -o all main_prathamesh.o help.o

main.o : main_prathamesh.c help.h
        gcc -c main_prathamesh.c
help.o: help.c help.h
        gcc -c help.c

clean:
        rm all main_prathamesh.o
```

5. Output of the file

```
prathamesh@prathamesh:~$ make
cc    -c -o main_prathamesh.o main_prathamesh.c
gcc -o all main_prathamesh.o help.o
prathamesh@prathamesh:~$ ls
all         Downloads  help.o               Makefile  Public      Videos
Desktop     help.c     main_prathamesh.c    Music     snap
Documents   help.h     main_prathamesh.o    Pictures  Templates
prathamesh@prathamesh:~$ ./all
Hello World
Type h to invoke help
```

Significances and Applications:

1. make finds the target prog1 and sees that it depends on the object files file1.o file2.o file3.o
2. make next looks to see if any of the three object files are listed as targets. They are so making looks at each target to see what it depends on. make sees that file1.o depends on the files file1.cc and mydefs.h.
3. Now make looks to see if either of these files are listed as targets and since they aren't it executes the commands given in file1.o's rule and compiles file1.cc to get the object file.
4. make looks at the targets file2.o and file3.o and compiles these object files in a similar fashion.
5. make now has all the object files required to make prog1 and does so by executing the commands in its rule.