



Ganpat University

॥ विद्यया समाजोत्कर्षः ॥

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-----PRACTICAL 01-----

- Learn how to recompile source codes of various projects / programs partially using Makefile utility

Q. (1)

Write a simple “Hello World” program. Move the part that outputs the text (i.e., the printf() function call), into a separate file hello.c. Edit an appropriate interface file hello.h in order to use the subroutine in the main.c program. Write a Makefile that maintains the program structure. Use a variable CC in the makefile to define the compiler, e.g., CC=gcc

File:- main.c

```
#include<stdio.h>
#include"header.h"
void main()
{
    printf("\n I am in main.c\n");
    printf("\nCalling hello function\n");
    hello();
    printf("\nCalling add function\n");
    add(3,5);
    printf("\n Back in main.c\n");
}
```

File:- header.h

```
void hello(void);
void add(int a,int b);
```

File:- hello.c

```
#include<stdio.h>
#include<unistd.h>
#include"header.h"
void hello()
{
    printf("\nI am in hello.c\n");
    printf("PID of hello.c %d\n",getpid());
}
```

}

File:- add.c

```
#include<stdio.h>
#include"header.h"
void add(int a,int b)
{
    int c;
    c=a+b;
    printf("\naddition :%d",c);
}
```

File:- Makefile

```
final:
    gcc main.c add.c hello.c -o final
```

✓ Output:

```
tushar@tushar-VirtualBox:~/Documents/OS/111$ make final
make: 'final' is up to date.
tushar@tushar-VirtualBox:~/Documents/OS/111$ ./final

I am in main.c

Calling hello function

I am in hello.c
PID of hello.c 6528

Calling add function

addition :8
Back in main.c
tushar@tushar-VirtualBox:~/Documents/OS/111$
```

❖ Q. (2)

Create a Makefile that converts any HTML file into text using the suffix rules. (.html to .txt file conversion)

File: index.html

```
<html>
  <head><title>test</title></head>
  <body>
    <h1>only for testing.</h1>
  </body>
</html>
```

File:Makefile

```
all:
    lynx --source index.html > index.txt && rm -rf index.html && cat
index.txt
```

Output:

```
tushar@tushar-VirtualBox:~/Documents/OS/111/2nd$ make
lynx --source index.html > index.txt && rm -rf index.html && cat index.txt
<html>
  <head><title>test</title></head>
  <body>
    <h1>only for testing.</h1>
  </body>
</html>tushar@tushar-VirtualBox:~/Documents/OS/111/2nd$ ls
index.txt  makefile
```