

Linux Programming

lab 08

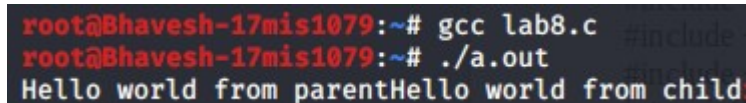
17MIS1079
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1. Fork

Code:

```
#include<stdio.h>
#include <sys/types.h>
#include <unistd.h>
int main()
{
    int pid;
    pid=fork();
    if(pid==0)
        printf("Hello world from child\n");
    else
        printf("Hello world from parent\n");
}
```

Output:



```
root@Bhavesh-17mis1079:~# gcc lab8.c
root@Bhavesh-17mis1079:~# ./a.out
Hello world from parentHello world from child
```

2. EXECCVE

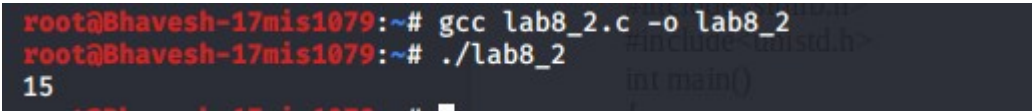
File Name: lab8_1.c

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
int main()
{
    int a=fork();
    if(a==0)
        execve("lab8_2",NULL,NULL); //pass ex2.c object here
}
```

File Name: lab8_2.c

```
#include<stdio.h>
int main()
{
    int i,a;
    int m=0;
    for(i=1;i<=5;i++)
    {
        m=m+i;
    }
    printf("%d\n",m);
}
```

Output:



```
root@Bhavesh-17mis1079:~# gcc lab8_2.c -o lab8_2
root@Bhavesh-17mis1079:~# ./lab8_2
15
```

3. Executing cat command using execve:

CODE:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    char* argv[3] = {"/bin/cat", "lab8_2.c", NULL};
    execve("/bin/cat", argv, NULL);
}
```

Output:

```

root@Bhavesh-17mis1079:~# gcc lab8_3.c -o lab8_3
lab8_3.c: In function 'main':
lab8_3.c:6:2: warning: implicit declaration of function 'execve' [
-Wimplicit-function-declaration]
   6 |     execve("/bin/cat", argv, NULL);
     |     ^~~~~~
root@Bhavesh-17mis1079:~# ./lab8_3
#include<stdio.h>
int main()
{
    int i,a;
    int m=0;
    for(i=1;i<=5;i++)
    {
        m=m+i;
    }
    printf("%d\n",m);
}

```

4.

Code:

```

#include<stdio.h>
#include<stdlib.h>
#include<sys/wait.h>
int main(void)
{
    pid_t pid;
    int status;
    if((pid=fork())<0)
    {
        printf("Error");
    }
    else if(pid==0)
    {
        exit(0);
    }
    if(wait(&status!=pid))
    {
        printf("wait Error\n");
    }
}

```

```

}
//pr_exit(status);
if((pid=fork())<0)
{
    printf("Fork Error");
}
else if(pid==0)
{
    abort();
}
}

```

Output:

```

root@Bhavesh-17mis1079:~# gcc lab8_4.c
lab8_4.c: In function 'main':
lab8_4.c:8:10: warning: implicit declaration of function 'fork' [-Wimplicit-function-declaration]
   8 | if((pid=fork())<0)
     |          ^~~~~
lab8_4.c:16:17: warning: comparison between pointer and integer
  16 | if(wait(&status)!=pid)
     |          ^~
lab8_4.c:16:17: warning: passing argument 1 of 'wait' makes pointer from integer without a cast [-Wint-conversion]
  16 | if(wait(&status)!=pid)
     |          ^~~~~~
     |          |
     |          !
     |          int
In file included from lab8_4.c:3:
/usr/include/x86_64-linux-gnu/sys/wait.h:77:27: note: expected 'int *' but argument is of type 'int'
   77 | extern __pid_t wait (int *__stat_loc);
     |                      ^~~~~~
root@Bhavesh-17mis1079:~# ./a.out
wait Error

```