Lab Task 12

Task 01:

```c
#include<stdio.h>
#include<sys/types.h>
#include<sys/stat.h>

int main(){
int res;
res = mkfifo("fifo1",0777);
printf("Pipe created\n");
}
```

```
user@maju-OptiPlex-3040:~$ nano pipe1.c
user@maju-OptiPlex-3040:~$ gcc pipe1.c
user@maju-OptiPlex-3040:~$ ./a.out
Pipe created
user@maju-OptiPlex-3040:~$
```

Task 02:

```c
#include<unistd.h>
#include<stdio.h>
#include<fcntl.h>
int main()
{
int res,n;
res=open("fifo1",O_WRONLY);
write(res,"Message",7);
printf("Sender Process %d sent the data\n",getpid());
}
```

```c
#include<unistd.h>
#include<stdio.h>
#include<fcntl.h>
int main()
{
int res,n;
char buffer[100];

res=open("fifo1",O_RDONLY);
n=read(res,buffer,100);
printf("Reader process %d started\n",getpid());
printf("Data received by receiver %d is: %s\n",getpid(), buffer);
}
```

```
user@maju-OptiPlex-3040:~$ gcc pipe1.c
user@maju-OptiPlex-3040:~$ gcc -o pipe2 pipe2.c
user@maju-OptiPlex-3040:~$ gcc -o pipe3 pipe3.c
user@maju-OptiPlex-3040:~$ ./pipe2 & ./pipe3
[2] 5413
Sender Process 5413 sent the data
Reader process 5414 started
Data received by receiver 5414 is: Message
[2]-  Done                    ./pipe2
user@maju-OptiPlex-3040:~$
```

Task 03:

```c
#include<unistd.h>
#include<stdio.h>
#include<fcntl.h>
int main(){

int res,n;

res=open("fifo1",O_NONBLOCK,O_WRONLY);
write(res,"Message",7);
printf("Sender Process %d sent the data\n",getpid());

}
```

```
user@maju-OptiPlex-3040:~$ nano unblock.c
user@maju-OptiPlex-3040:~$ gcc unblock.c
user@maju-OptiPlex-3040:~$ ./a.out
Sender Process 5681 sent the data
user@maju-OptiPlex-3040:~$
```

Task 04:

```c
#include<unistd.h>
#include<stdio.h>
#include<fcntl.h>
int main()
{
int res,n;
char buffer[100];
res=open("fifo1",O_NONBLOCK,O_RDONLY);
n=read(res,buffer,100);
printf("Reader process %d started\n",getpid());
printf("Data received by receiver %d is: %s\n",getpid(), buffer);
}
```

```
user@maju-OptiPlex-3040:~$ nano unblock2.c
user@maju-OptiPlex-3040:~$ gcc unblock2.c
user@maju-OptiPlex-3040:~$ ./a.out
Reader process 5829 started
Data received by receiver 5829 is:
user@maju-OptiPlex-3040:~$
```

Task 05:

```c
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/shm.h>
#include<string.h>

int main(){
int i;
void *shared_memory;
char buff[100];
int shmid;
shmid=shmget((key_t)2345, 1024, 0666|IPC_CREAT);
printf("Key of shared memory is %d\n",shmid);
shared_memory=shmat(shmid,NULL,0);
printf("Process attached at %p\n",shared_memory);
printf("Enter some data to write to shared memory\n");
read(0,buff,100);
strcpy(shared_memory,buff);
printf("You wrote : %s\n",(char *)shared_memory);
}
```

```
user@maju-OptiPlex-3040:~$ nano SharedMemory.c
user@maju-OptiPlex-3040:~$ gcc SharedMemory.c
user@maju-OptiPlex-3040:~$ ./a.out
Key of shared memory is 65592
Process attached at 0x7fc078305000
Enter some data to write to shared memory
Hello World
You wrote : Hello World
```

Task 06:

```c
#include<stdlib.h>
#include<stdio.h>
#include<unistd.h>
#include<sys/shm.h>
#include<string.h>
int main()
{
int i;
void *shared_memory;
char buff[100];
int shmid;
shmid=shmget((key_t)2345, 1024, 0666);
printf("Key of shared memory is %d\n",shmid);
shared_memory=shmat(shmid,NULL,0);
printf("Process attached at %p\n",shared_memory);
printf("Data read from shared memory is : %s\n",(char *)shared_memory);
}
```

```
user@maju-OptiPlex-3040:~$ nano SharedMemory2.c
user@maju-OptiPlex-3040:~$ gcc SharedMemory2.c
user@maju-OptiPlex-3040:~$ ./a.out
Key of shared memory is 65592
Process attached at 0x7ff275720000
Data read from shared memory is : Hello World
```