

سپهر مقیسه

۹۸۳۱۱۰۳

گزارش ۴

بخش یک

کد های این بخش به این صورت است :

Receiver :

```
#include "protocol.h"

#include <stdio.h>
#include <sys/ipc.h>
#include <sys/shm.h>

int main() {
    key_t key=ftok("shmfile",65);
    int shmid=shmget(key,1024,0666|IPC_CREAT);
    char *str=(char*) shmat(shmid,(void*)0,0);
    printf("data read from memory:%s\n",str);
    shmdt(str);
    shmctl(shmid,IPC_RMID,NULL);
    return 0;
}
```

Sender :

```

42.c                                     RECEIVER.C
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>

int main (){

    key_t key=ftok("shmfile",65);

    int shmid=shmget(key,1024,0666|IPC_CREAT);

    char *str=(char*) shmat(shmid,(void*)0,0);

    printf("WRITE DATA:");
    gets(str);

    printf("data has been written:%s\n",str);

    shmdt(str);

    return 0;

}

```

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حال در ترمینال دستور gcc را وارد کرده و یک پیام را با کمک sender در حافظه ثبت کرده:

```
sepehr@ubuntu:~/Desktop/shared$ gcc sender.c -o sender2
sender.c: In function 'main':
sender.c:15:2: warning: implicit declaration of function 'gets'; did you mean 'fgets'? [-Wimplicit-function-declaration]
    gets(str);
    ^~~~~
sepehr@ubuntu:~/Desktop/shared$ gcc -Werror sender.c -o sender2
sender.c:15:2: error: implicit declaration of function 'gets' is illegal in C [-Werror=implicit-function-declaration]
    gets(str);
    ^~~~~
/usr/bin/ld: /tmp/ccR7yJ0n.o: in function 'main':
sender.c:(.text+0x69): warning: the 'gets' function is dangerous and should not be used.
sepehr@ubuntu:~/Desktop/shared$ ./sender.c
bash: ./sender.c: Permission denied
sepehr@ubuntu:~/Desktop/shared$ ./sender
WRITE DATA:9831103
data has been written:9831103
sepehr@ubuntu:~/Desktop/shared$
```

حال با کمک receiver آن پیام را از حافظه خوانده و برمیگردانیم:

```
sepehr@ubuntu:~/Desktop/shared$ gcc receiver.c -o receiver2
sepehr@ubuntu:~/Desktop/shared$ ./receiver
data read from memory:9831103
sepehr@ubuntu:~/Desktop/shared$
```

بخش سوم:

کد به این صورت است :

```
#include<stdio.h>

#include<stdlib.h>

#include<unistd.h>

#include<sys/types.h>

#include<string.h>

#include<sys/wait.h>

int main()

{

    int op1[2];

    int op2[2];

    char word[100];

    pipe(op1);

    pipe(op2);

    pid_t p = fork();

    if (p > 0)

    {

        gets(word);

        close(op1[0]);

        write(op1[1], word, strlen(word)+1);
```

```

wait(NULL);

char str[100];

close(op2[1]);

read(op2[0], str, 100);

printf("%s\n", str);
}

else
{
    close(op1[1]);

    char str[100];

    read(op1[0], str, 100);

    int k = strlen(str);

    int i;

    for (int i=0; i<k; i++)
    {
        //+

        if (str[i]>='A' && str[i]<='Z')
        {
            str[i] = str[i] + 'a' - 'A';
        }
    }
}

```

```

    if (str[i]>='A' && str[i]<='Z')
        str[i] = str[i] + 'a' - 'A';

    else if (str[i]>='a' && str[i]<='z')
        str[i] = str[i] + 'A' - 'a';

}

close(op2[0]);

write(op2[1], str, strlen(str)+1);

exit(0);

}

}

```

سپس با gcc آن را ران کرده و تست میکنیم

```

sepehr@ubuntu: ~/Desktop/rgg$ gcc q2.c
q2.c: In function 'main':
q2.c:33:3: warning: implicit declaration of function 'gets'; did you mean 'fgets' [-Wimplicit-function-declaration]
    gets(in);
    ^~~~~
    fgets
/usr/bin/ld: /tmp/ccR3Auan.o: in function 'main':
q2.c:(.text+0x60): warning: the `gets' function is dangerous and should not be used.
sepehr@ubuntu:~/Desktop/rgg$ ./q2
hello SdfwS
HELLO sdfWs
sepehr@ubuntu:~/Desktop/rgg$

```