

```
1 #include "header.h"
2
3 int main(int argc, char* argv[]) {
4     int size = 0, semid, shmid, i;
5     unsigned short final_values[NUMSEM];
6     key_t key;
7
8     if (argc != 1) {
9         printf("usage: %s\n", argv[0]);
10        return -1;
11    }
12
13    if ( (key = ftok("/dev/null", 65)) == (key_t) -1 ) {
14        perror("ftok");
15        return -1;
16    }
17
18    if ( (semid = semget(key, NUMSEM, 0666 | IPC_CREAT)) < 0 ) {
19        perror("semget");
20        return -1;
21    }
22
23    semctl(semid, FULL, SETVAL, 0);
24    semctl(semid, EMPTY, SETVAL, SIZE);
25    semctl(semid, MUTEX, SETVAL, 1);
26
27    semctl(semid, 0, GETALL, final_values);
28    printf("values: ");
29    for (i = 0; i < NUMSEM; i++) {
30        printf("%3i", final_values[i]);
31    }
32    printf("\n");
33}
```

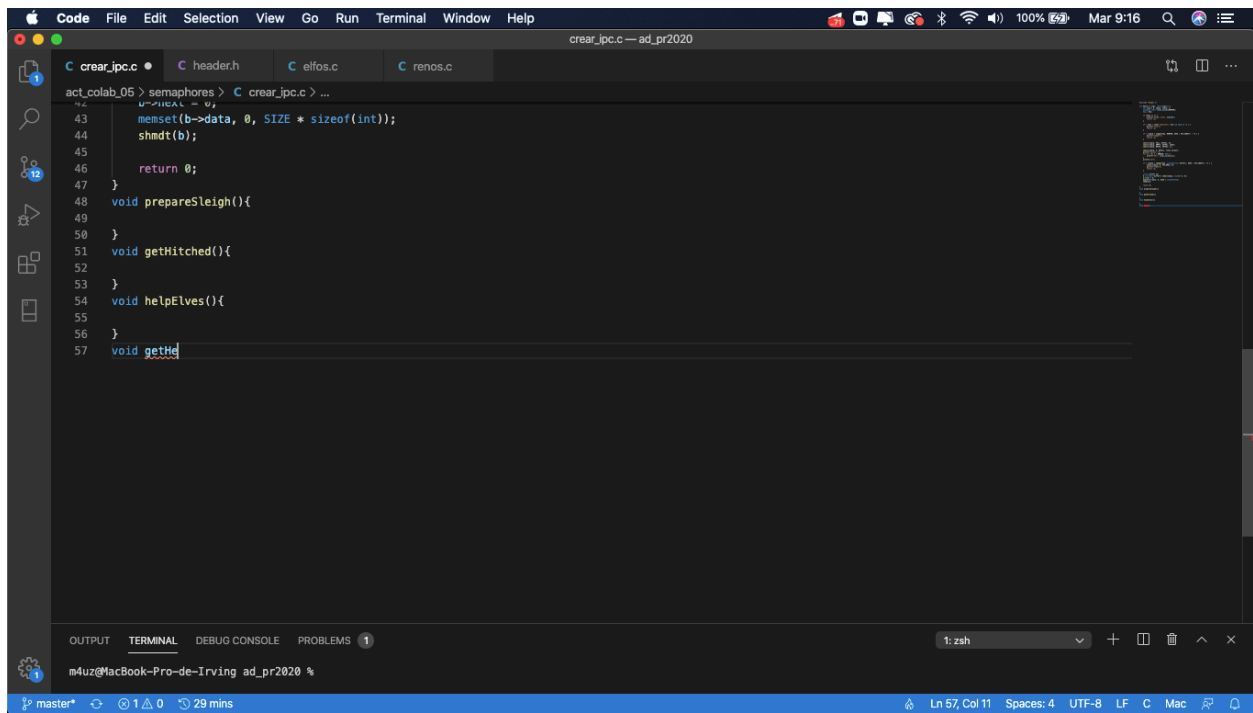
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS 2

1: zsh

m4uz@MacBook-Pro-de-Irving ad_pr2020 %

```
1 #include <stdio.h>
2 int main() {
3
4     return 0;
5 }
```

Ln 5, Col 2 Spaces: 4 UTF-8 LF C Mac



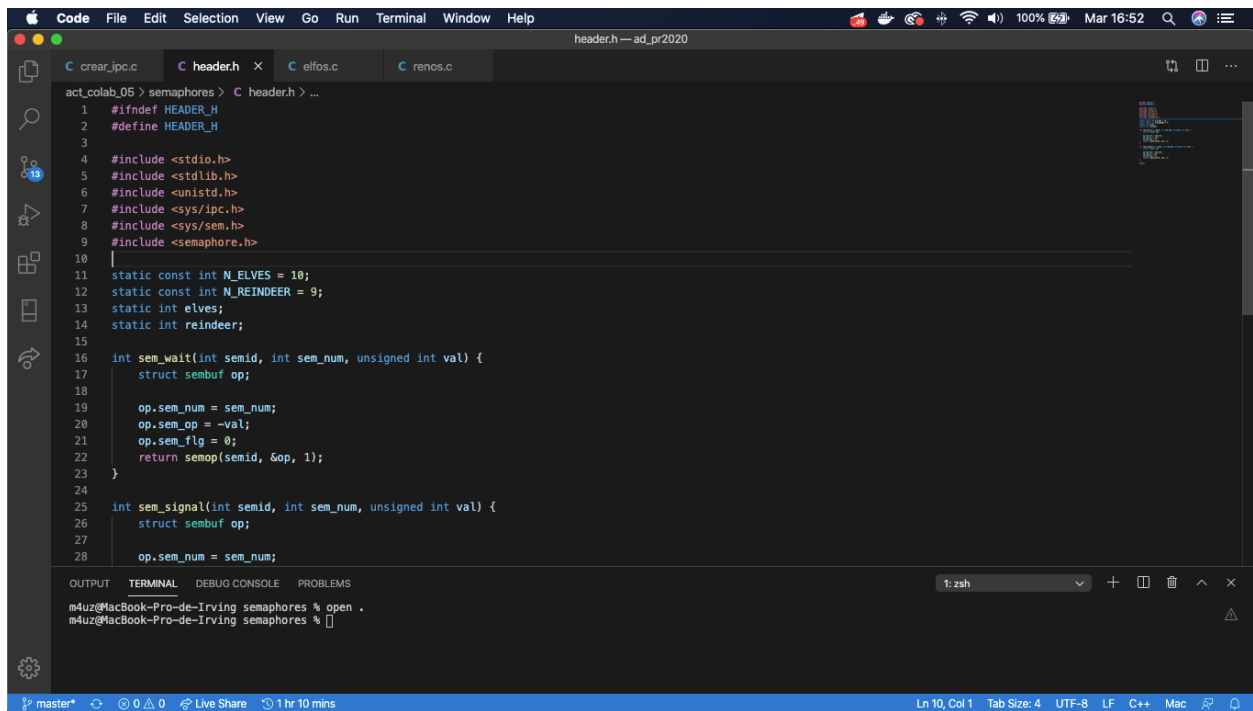
```
crear_ipc.c — ad_pr2020

act_colab_05 > semaphores > C crear_ipc.c > ...
43     memset(b->data, 0, SIZE * sizeof(int));
44     shmdt(b);
45     return 0;
46 }
47 void prepareSleigh() {
48 }
49 void getHitched() {
50 }
51 void helpElves() {
52 }
53 void helpElves() {
54 }
55 void getHe
56
57
```

OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS 1

m4uz@MacBook-Pro-de-Irving ad_pr2020 %

Ln 57, Col 11 Spaces: 4 UTF-8 LF C Mac



```
header.h — ad_pr2020

act_colab_05 > semaphores > C header.h > ...
1  #ifndef HEADER_H
2  #define HEADER_H
3
4  #include <stdio.h>
5  #include <stdlib.h>
6  #include <unistd.h>
7  #include <sys/ipc.h>
8  #include <sys/sem.h>
9  #include <semaphore.h>
10
11 static const int N_ELVES = 10;
12 static const int N_REINDEER = 9;
13 static int elves;
14 static int reindeer;
15
16 int sem_wait(int semid, int sem_num, unsigned int val) {
17     struct sembuf op;
18
19     op.sem_num = sem_num;
20     op.sem_op = -val;
21     op.sem_flg = 0;
22     return semop(semid, &op, 1);
23 }
24
25 int sem_signal(int semid, int sem_num, unsigned int val) {
26     struct sembuf op;
27
28     op.sem_num = sem_num;
29
```

OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS

m4uz@MacBook-Pro-de-Irving semaphores % open .

m4uz@MacBook-Pro-de-Irving semaphores %

Ln 10, Col 1 Tab Size: 4 UTF-8 LF C++ Mac

```
Code File Edit Selection View Go Run Terminal Window Help
elfos.c — ad_pr2020
C crear_ipc.c C header.h C elfos.c x C renos.c C santa.c
act_colab_06 > semaphores > C elfos.c > elfo(int, int)
1  /*-----
2  * Programación avanzada: Actividad 5
3  *
4  * Fecha: 12-05-2020
5  *
6  * Autor: Irving Alain Aguilar Pérez - A1703171
7  *
8  * Referencias: Ejercicios de https://github.com/Manchas2k4/advanced\_programming/tree/master/ipc/semaphores
9  *-----*/
10 /* [START] C Libraries */
11 #include "header.h"
12 void elfo(int num, int semid){
13     int helpElve;
14     while(1){
15         helpElve = (rand() % num) + 1;
16         printf("This is elf #%d\n", helpElve);
17         helpElve = rand() % 1;
18         // helpElve = 1;
19     }
20 }
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS 1
m4uz@MacBook-Pro-de-Irving semaphores %
```