**Exercise #3**

1. Write a program to simulate Segmentation. Compute the physical address

Take as input:

1. Segment number
2. Base address
3. Segment limit
4. Write a C program that handles floating-point exceptions, such as division by zero, using signal handling.

* Implement a signal handler function that catches SIGFPE (Floating-Point Exception) and displays an appropriate error message.
* Use the signal() function to register the handler.
* Prompt the user to input a numerator and a denominator.
* Perform the division operation and display the result.
* If a division by zero occurs, the program should invoke the signal handler before terminating.

**Note:** Use signal(SIGFPE, handler\_function) to catch floating-point exceptions.

1. Write a C program using **pthreads** and **semaphores** to synchronize two threads, ensuring only one enters the critical section at a time. Use sem\_wait() and sem\_post() for semaphore control.