Logical Operators

- These are bit wise Operations.

- NOT
  - It will flip a 1 to 0 and 0 to 1.
  - `not rax`

- AND
  - 1 AND 1 will be 1 ,Other than that everything is 0.
  - `and rbx,rax`

- OR
  - 0 OR 0 is 0 and Everything is 1.
  - `xor rbx,rax`

- XOR
  - A XOR B = AB' + BA'
  - 1 XOR 1 is 0
  - 0 XOR 0 is 0
  - 1 XOR 0 is 1
  - `xor rbx,rax`

CODE :

```
global _start

section .text
_start:

    ; NOT Operation

    mov rax, qword [var2]
    not rax

    mov rbx, qword [var1]
    not rbx
```

```asm
    ; AND Operation

    mov rax, qword [var2]
    mov rbx, qword [var1]
    and rbx, rax

    mov rbx, qword [var1]
    and rbx, qword [var1]


    ; OR Operation

    mov rax, qword [var2]
    mov rbx, qword [var1]
    or rbx, rax

    mov rbx, qword [var1]
    or rbx, qword [var1]

    ; XOR Operation

    mov rax, 0x0101010101010101
    mov rbx, 0x1010101010101010
    xor rax, rbx

    xor rax, rax

    xor qword [var1], rax


    ; exit the program gracefully

    mov rax, 0x3c
    mov rdi, 0
    syscall

section .data

    var1 dq 0x1111111111111111
    var2 dq 0x0
```