The Octal Notation

- The **number** that represents the permission in base-8 can be a either a 3 or a 4-digit number with digits from 0 to 7. The leading zero (0) can be omitted.
- 0755 = 755 and 0644 = 644.
- **When a 3 digit number is used, the first digit represents the permissions of the file's owner, the second one the file's group, and the last one the permissions of the others class.**
- **r**, **w**, and **x** have their own **fixed** number value:
  - r (read) = 4
  - w (write) = 2
  - x (execute) = 1
  - - (no permissions) = 0
  - The permissions number of a specific user class is represented by the sum of the values of the permissions for that group.

0777 for directories

0777 - 0002 = 0775
0666 - 0002 = 0664
0666 - umask = 0644 =>umaks = 0022