# Subnetting Task #1

**An ISP has provided your Sydney based company with the 190.11.40.0/23 network.**

**Devise a fixed-length subnetting scheme that divides the 190.11.40.0/23 network such that each subnet can support a minimum of 50 hosts.**

**You should assume that the all zero's and all one's subnets are usable.**

ISP provided IP address: 190.11.40/23

Subnet Mask (23): 255.255.11111110.0

255.255.254.0

This means that we have a total of 9 bits to use to create subnet masks and hosts.

1. Calculate the new subnet mask

BEFORE SUBNETTING

AFTER SUBNETTING

**Questions**:

* How does multiple octet subnet masks affect IP ranges
* Specify what columns we need
* What format do you want the final response for task A
* What does “**both before and after subnetting**” mean? More or less a question about how to format the answer

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Subnet Number** | **Subnet ID binary value** | **Network bits 3rd octet** | **3rd octet decimal value** | **Host bits binary range** | **Last octet binary range** | **Last octet decimal range** | **IP range** |
| 0 | 000 | 00101000 | 40 | 000000-111111 | 00000000-00111111 | 0-63 | 190.11.40.0- 190.11.40.63 |
| 1 | 001 | 00101000 | 40 | 000000-111111 | 01000000-01111111 | 64-127 | 190.11.40.64 - 190.11.40.127 |
| 2 | 010 | 00101000 | 40 | 000000-111111 | 10000000-10111111 | 128-191 | 190.11.40.128 - 190.11.40.191 |
| 3 | 011 | 00101000 | 40 | 000000-111111 | 11000000-11111111 | 192-255 | 190.11.40.192 - 190.11.40.255 |
| 4 | 100 | 00101001 | 414 | 000000-111111 | 00000000-00111111 | 0-63 | 190.11.41.0- 190.11.41.63 |
| 5 | 101 | 00101001 | 41 | 000000-111111 | 01000000-01111111 | 64-127 | 190.11.41.64 - 190.11.41.127 |
| 6 | 110 | 00101001 | 41 | 000000-111111 | 10000000-10111111 | 128-191 | 190.11.41.128 - 190.11.41.191 |
| 7 | 111 | 00101001 | 41 | 000000-111111 | 11000000-11111111 | 192-255 | 190.11.41.192 - 190.11.41.255 |