Given IP Address is- 192.168.0.0/16

We have to create 5 subnets in this so either we can create 4 or 8 not 5 so we can take 8 .

We can create subnet with the following formula -

2^n here value of n is 3

Total number of host are-

2^19 = 8192-2 = 8190(we subtracted the host which is predefiend)

Every network or subnet has 8190 host in their network.

So now we store first three bits for host

192.168.**000**00000.00000000

To create subnets we need to fix and change the value

Example- **we fix the 3rd bit as 0 for subnet 1 , 000**

* Value/Range of subnet 1-

192.168.0.0(network id)

192.168.0.255(broadcast id)

**192.168.0.1/19 - 192.168.31.254/19**

**we fix the 3rd bit as 1 for subnet 2 , 001**

* Value/Range of subnet 2-

192.168.32.0(network id)

192.168.63.255(broadcast id)

**192.168.33.1/19 - 192.168.63.254/19**

**we fix the 2rd bit as 1 for subnet 3 so it become 010**

* Value/Range of subnet 3-

192.168.64.0(network id)

192.168.95.255(broadcast id)

**192.168.64.1/19 - 192.168.95.254/19**

**we fix the 2rd bit as 1 for subnet 4, it become 011**

* Value/Range of subnet 4-

192.168.96.0(network id)

192.168.127.255(broadcast id)

**192.168.96.1/19 - 192.168.127.254/19**

**we fix the 1rd bit as 1 for subnet 5 , it become 110**

* Value/Range of subnet 5-

192.168.128.0(network id)

192.168.159.255(broadcast id)

**192.168.128.1/19 - 192.168.159.254/19**

* **Subnet 1- 192.168.0.0/19**
* **Subnet 2: 192.168.32.0/19**
* **Subnet 3: 192.168.64.0/19**
* **Subnet 4: 192.168.96.0/19**
* **Subnet 5: 192.168.128.0/19**