Tarea 1 - LAB

Comienzo para todo Caso
192.22.0.0/16

1) Caso 1

LAN1: 200 host
LAN2: 100 host
LAN3: 20 host
LAN4: 50 host
LAN5: 1200 host → comenzamos con esto por ser la más grande

$1202 < 2^{11}$

Red LAN5 192.22.0.0/21

192.22.0.1 → Gateway
⋮
192.22.7.254/21
192.22.7.255/21 → Bcast

} 2046 utilizables

Dir másc:
255.255.248.0
porque tiene 11 años al final

Red LAN1 192.22.8.0/24 $201 < 2^8$

192.22.8.1/24 → Gateway
⋮
192.22.8.254/24
192.22.8.255/24 → Bcast

} 254 utilizables

Dir másc:
255.255.255.0
por tener 8 ceros

Red LAN2 192.22.9.0/25 $101 < 2^7$

192.22.9.1/25 → Gateway
⋮
192.22.9.126/25
192.22.9.127/25 → Bcast

} 126 utilizables

Dir másc:
255.255.255.128
por tener 7 ceros

Red LAN4 192.22.9.128/26 $52 < 2^6$

192.22.9.129/26 → Gateway
⋮
192.22.9.190/26
192.22.9.191/26 → Bcast

} 62 utilizables

Dir másc:
255.255.255.192
por tener 6 ceros

Red LAN3 192.22.9.192/27 $22 < 2^5$

192.22.9.193/27 → Gateway
⋮
192.22.9.222/27
192.22.9.223/27 → Bcast

} 30 utilizables

Dir másc:
255.255.255.224
por tener 5 ceros

3) Caso 3

LAN1: 200 host
LAN2: 126 host
LAN3: 20 host
LAN4: 80 host
LAN5: 300 host → comienza con esto por más grande

Red LAN5 — 192.22.0.0/23 — $302 < 2^9$
Dir masc: 255.255.254.0
192.22.0.1/23 → Gateway
⋮
192.22.1.254/23
192.22.1.255/23 → Bcast
} 510 utilizables

Red LAN1 — 192.22.2.0/24 — $202 < 2^8$
Dir masc: 255.255.255.0
192.22.2.1/24 → Gateway
⋮
192.22.2.254/24
192.22.2.255/24 → Bcast
} 254 utilizables

Red LAN2 — 192.22.3.0/25 — $128 = 2^7$
Dir masc: 255.255.255.128
192.22.3.1/25 → Gateway
⋮
192.22.3.126/25
192.22.3.127/25 → Bcast
} 126 utilizables

Red LAN4 — 192.22.3.128/26 — $52 < 2^6$
Dir masc: 255.255.255.192
192.22.3.129/26 → Gateway
⋮
192.22.3.190/26
192.22.3.191/26 → Bcast
} 62 utilizables

Red LAN3 — 192.22.3.192/27 — $22 < 2^5$
Dir masc: 255.255.255.224
192.22.3.193/27 → Gateway
⋮
192.22.3.222/27
192.22.3.223/27 → Bcast
} 30 utilizables

8) Caso 8

LAN1: 62 host
LAN2: 120 host
LAN3: 13 host
LAN4: 511 host → más grande
LAN5: 12 host

Red LAN4 — 192.22.0.0/22 — $2^9 < 511+2 = 513 < 2^{10}$
Dir masc: 255.255.252.0
192.22.0.1/22 → Gateway
⋮
192.22.3.254/22
192.22.3.255/22 → Bcast
} 1022 utilizables

Red LAN2 — 192.22.4.0/25 — $120+2 < 2^7$
Dir masc: 255.255.255.128
192.22.4.1/25 → Gateway
⋮
192.22.4.126/25
192.22.4.127/25 → Bcast
} 126 utilizables

Red LAN1 — 192.22.4.128/26 — $62+2 = 2^6$
Dir masc: 255.255.255.192
192.22.4.129/26 → Gateway
⋮
192.22.4.190/26
192.22.4.191/26 → Bcast
} 62 utilizables

Red LAN3 — 192.22.4.192/28 — $13+2 < 2^4$
Dir masc: 255.255.255.240
192.22.4.193/28 → Gateway
⋮
192.22.4.206/28
192.22.4.207/28 → Bcast
} 14 utilizables

Red LAN5 — 192.22.4.208/28 — $12+2 < 2^4$
Dir masc: 255.255.255.240
192.22.4.209/28 → Gateway
⋮
192.22.4.222/28
192.22.4.223/28 → Bcast
} 14 utilizables

10) Caso 10

LAN1: 80 host

LAN2: 10 host

LAN3: 200 host

LAN4: 33 host

LAN5: 400 host → comienzo

Red LANS — 192.22.0.0/23

192.22.0.1/23 → Gateway

⋮

192.22.1.254/23

192.22.1.255/23 → Bcast

} utilizables 510

$400+2 < 2^9$

Dir masc: 255.255.254.0

Red LAN3 — 192.22.2.0/24

192.22.2.1/24 → Gateway

⋮

192.22.2.254/24

192.22.2.255/24 → Bcast

} 254 utilizables

$200+2 < 2^8$

Dir masc: 255.255.255.0

Red LAN1 — 192.22.3.0/25

192.22.3.1/25 → Gateway

⋮

192.22.3.126/25

192.22.3.127/25 → Bcast

} 126 utilizables

$80+2 < 2^7$

Dir masc: 255.255.255.128

Red LAN4 — 192.22.3.128/26

192.22.3.129/26 → Gateway

⋮

192.22.3.190/26

192.22.3.191/26 → Bcast

} 62 utilizables

$33+2 < 2^6$

Dir masc: 255.255.255.192

Red LAN2 — 192.22.3.192/28

192.22.3.193/28 → Gateway

⋮

192.22.3.206/28

192.22.3.207/28 → Bcast

} 14 utilizables

$10+2 < 2^4$

Dir masc 255.255.255.240