

**DM-02**

L'étudiant :

**YOUSFI**

**ZAKARIA**

**171732026950**

## 1) Fichier .pkt

## 2) Toutes les commandes relatives à la configuration du Routage Statique

### Router 00:

enable

configure terminal

ip route 149.77.16.96 255.255.255.224 149.77.16.93

ip route 149.77.16.128 255.255.255.224 149.77.16.93

ip route 149.77.16.160 255.255.255.224 149.77.16.93

ip route 149.77.16.192 255.255.255.224 149.77.16.93

ip route 149.77.16.224 255.255.255.224 149.77.16.93

ip route 149.77.17.0 255.255.255.224 149.77.16.93

ip route 149.77.17.32 255.255.255.224 149.77.16.93

ip route 149.77.17.64 255.255.255.224 149.77.16.93

ip route 149.77.17.96 255.255.255.224 149.77.16.93

ip route 149.77.17.128 255.255.255.224 149.77.16.93

ip route 149.77.17.160 255.255.255.224 149.77.16.93

ip route 149.77.17.192 255.255.255.224 149.77.16.93

ip route 149.77.17.244 255.255.255.224 149.77.16.93

ip route 149.77.18.0 255.255.255.224 149.77.16.93

ip route 149.77.18.32 255.255.255.224 149.77.16.93

ip route 149.77.18.64 255.255.255.224 149.77.16.93

ip route 149.77.18.96 255.255.255.224 149.77.16.93

ip route 149.77.18.128 255.255.255.224 149.77.16.93

ip route 149.77.18.160 255.255.255.224 149.77.16.93

ip route 149.77.18.192 255.255.255.224 149.77.16.93

ip route 149.77.18.244 255.255.255.224 149.77.16.93

ip route 149.77.19.0 255.255.255.224 149.77.16.93

ip route 149.77.19.32 255.255.255.224 149.77.16.93

### **Router1:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.16.94

ip route 149.77.16.32 255.255.255.224 149.77.16.94

ip route 149.77.16.224 255.255.255.224 149.77.18.125

ip route 149.77.17.0 255.255.255.224 149.77.18.125

ip route 149.77.17.32 255.255.255.224 149.77.18.125

ip route 149.77.17.64 255.255.255.224 149.77.18.125

ip route 149.77.17.96 255.255.255.224 149.77.18.125

ip route 149.77.17.128 255.255.255.224 149.77.18.125

ip route 149.77.17.160 255.255.255.224 149.77.18.125

ip route 149.77.17.192 255.255.255.224 149.77.18.125

ip route 149.77.17.244 255.255.255.224 149.77.18.125

ip route 149.77.18.0 255.255.255.224 149.77.18.125

ip route 149.77.18.32 255.255.255.224 149.77.18.125

ip route 149.77.18.64 255.255.255.224 149.77.18.125

ip route 149.77.18.128 255.255.255.224 149.77.18.125

ip route 149.77.18.160 255.255.255.224 149.77.18.125

ip route 149.77.18.192 255.255.255.224 149.77.18.125

ip route 149.77.18.244 255.255.255.224 149.77.18.125

ip route 149.77.19.0 255.255.255.224 149.77.18.125

ip route 149.77.19.32 255.255.255.224 149.77.18.125

## **Router2:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.18.126

ip route 149.77.16.32 255.255.255.224 149.77.18.126

ip route 149.77.16.64 255.255.255.224 149.77.18.126

ip route 149.77.16.96 255.255.255.224 149.77.18.126

ip route 149.77.16.128 255.255.255.224 149.77.18.126

ip route 149.77.16.160 255.255.255.224 149.77.18.126

ip route 149.77.16.192 255.255.255.224 149.77.18.126

ip route 149.77.16.224 255.255.255.224 149.77.18.157

ip route 149.77.17.0 255.255.255.224 149.77.18.157

ip route 149.77.17.32 255.255.255.224 149.77.18.157

ip route 149.77.17.64 255.255.255.224 149.77.18.157

ip route 149.77.17.96 255.255.255.224 149.77.18.157

ip route 149.77.17.128 255.255.255.224 149.77.18.157

ip route 149.77.17.160 255.255.255.224 149.77.18.157

ip route 149.77.17.192 255.255.255.224 149.77.18.157

ip route 149.77.18.160 255.255.255.224 149.77.18.157

ip route 149.77.18.192 255.255.255.224 149.77.18.157

ip route 149.77.18.244 255.255.255.224 149.77.18.157

ip route 149.77.19.0 255.255.255.224 149.77.18.157

ip route 149.77.19.32 255.255.255.224 149.77.18.157

ip route 149.77.18.0 255.255.255.224 149.77.17.253

ip route 149.77.18.32 255.255.255.224 149.77.17.253

ip route 149.77.18.64 255.255.255.224 149.77.17.253

### **Router3:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.18.158

ip route 149.77.16.32 255.255.255.224 149.77.18.158

ip route 149.77.16.64 255.255.255.224 149.77.18.158

ip route 149.77.16.96 255.255.255.224 149.77.18.158

ip route 149.77.16.128 255.255.255.224 149.77.18.158

ip route 149.77.16.160 255.255.255.224 149.77.18.158

ip route 149.77.16.192 255.255.255.224 149.77.18.158

ip route 149.77.17.32 255.255.255.224 149.77.18.189

ip route 149.77.17.64 255.255.255.224 149.77.18.189

ip route 149.77.17.96 255.255.255.224 149.77.18.189

ip route 149.77.17.128 255.255.255.224 149.77.18.189

ip route 149.77.17.160 255.255.255.224 149.77.18.189

ip route 149.77.17.192 255.255.255.224 149.77.18.189

ip route 149.77.17.224 255.255.255.224 149.77.18.189

ip route 149.77.18.0 255.255.255.224 149.77.18.189

ip route 149.77.18.32 255.255.255.224 149.77.18.189

ip route 149.77.18.64 255.255.255.224 149.77.18.189

ip route 149.77.18.192 255.255.255.224 149.77.18.189

ip route 149.77.18.244 255.255.255.224 149.77.18.189

ip route 149.77.19.0 255.255.255.224 149.77.18.189

ip route 149.77.19.32 255.255.255.224 149.77.18.189

#### **Router4:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.18.190

ip route 149.77.16.32 255.255.255.224 149.77.18.190

ip route 149.77.16.64 255.255.255.224 149.77.18.190

ip route 149.77.16.96 255.255.255.224 149.77.18.190

ip route 149.77.16.128 255.255.255.224 149.77.18.190

ip route 149.77.16.160 255.255.255.224 149.77.18.190

ip route 149.77.16.192 255.255.255.224 149.77.18.190

ip route 149.77.16.224 255.255.255.224 149.77.18.190

ip route 149.77.17.0 255.255.255.224 149.77.18.190

ip route 149.77.18.96 255.255.255.224 149.77.18.190

ip route 149.77.18.128 255.255.255.224 149.77.18.190

ip route 149.77.17.32 255.255.255.224 149.77.17.252

ip route 149.77.17.64 255.255.255.224 149.77.17.252

ip route 149.77.17.96 255.255.255.224 149.77.17.252

ip route 149.77.17.128 255.255.255.224 149.77.17.252

ip route 149.77.17.160 255.255.255.224 149.77.17.252

ip route 149.77.17.192 255.255.255.224 149.77.17.252

ip route 149.77.18.192 255.255.255.224 149.77.17.252

ip route 149.77.18.244 255.255.255.224 149.77.17.252

ip route 149.77.19.0 255.255.255.224 149.77.17.252

ip route 149.77.19.32 255.255.255.224 149.77.17.252

### **Router5:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.18.94

ip route 149.77.16.32 255.255.255.224 149.77.18.94

ip route 149.77.16.64 255.255.255.224 149.77.18.94

ip route 149.77.16.96 255.255.255.224 149.77.18.94

ip route 149.77.16.128 255.255.255.224 149.77.18.94

ip route 149.77.16.160 255.255.255.224 149.77.18.94

ip route 149.77.16.192 255.255.255.224 149.77.18.94

ip route 149.77.16.224 255.255.255.224 149.77.18.94

ip route 149.77.17.0 255.255.255.224 149.77.18.94

ip route 149.77.18.0 255.255.255.224 149.77.18.94

ip route 149.77.18.32 255.255.255.224 149.77.18.94

ip route 149.77.18.96 255.255.255.224 149.77.18.94

ip route 149.77.18.128 255.255.255.224 149.77.18.94

ip route 149.77.18.160 255.255.255.224 149.77.18.94

ip route 149.77.17.96 255.255.255.224 149.77.17.61

ip route 149.77.17.128 255.255.255.224 149.77.17.61

ip route 149.77.17.160 255.255.255.224 149.77.17.61

ip route 149.77.17.192 255.255.255.224 149.77.17.61

ip route 149.77.18.192 255.255.255.224 149.77.17.61

ip route 149.77.18.244 255.255.255.224 149.77.17.61

ip route 149.77.19.0 255.255.255.224 149.77.17.61

ip route 149.77.19.32 255.255.255.224 149.77.17.61

### **Router6:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.18.222

ip route 149.77.16.32 255.255.255.224 149.77.18.222

ip route 149.77.16.64 255.255.255.224 149.77.18.222

ip route 149.77.16.96 255.255.255.224 149.77.18.222

ip route 149.77.16.128 255.255.255.224 149.77.18.222

ip route 149.77.16.160 255.255.255.224 149.77.18.222

ip route 149.77.16.192 255.255.255.224 149.77.18.222

ip route 149.77.16.224 255.255.255.224 149.77.18.222

ip route 149.77.17.0 255.255.255.224 149.77.18.222

ip route 149.77.17.32 255.255.255.224 149.77.18.222

ip route 149.77.17.64 255.255.255.224 149.77.18.222

ip route 149.77.17.224 255.255.255.224 149.77.18.222

ip route 149.77.18.0 255.255.255.224 149.77.18.222

ip route 149.77.18.32 255.255.255.224 149.77.18.222

ip route 149.77.18.64 255.255.255.224 149.77.18.222

ip route 149.77.18.96 255.255.255.224 149.77.18.222

ip route 149.77.18.128 255.255.255.224 149.77.18.222

ip route 149.77.18.160 255.255.255.224 149.77.18.222

ip route 149.77.19.32 255.255.255.224 149.77.18.222

ip route 149.77.17.96 255.255.255.224 149.77.18.253

ip route 149.77.17.192 255.255.255.224 149.77.18.253

ip route 149.77.18.64 255.255.255.224 149.77.18.253



### **Router7:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.19.30

ip route 149.77.16.32 255.255.255.224 149.77.19.30

ip route 149.77.16.64 255.255.255.224 149.77.19.30

ip route 149.77.16.96 255.255.255.224 149.77.19.30

ip route 149.77.16.128 255.255.255.224 149.77.19.30

ip route 149.77.16.160 255.255.255.224 149.77.19.30

ip route 149.77.16.192 255.255.255.224 149.77.19.30

ip route 149.77.16.224 255.255.255.224 149.77.19.30

ip route 149.77.17.0 255.255.255.224 149.77.19.30

ip route 149.77.17.32 255.255.255.224 149.77.19.30

ip route 149.77.17.64 255.255.255.224 149.77.19.30

ip route 149.77.17.96 255.255.255.224 149.77.19.30

ip route 149.77.17.224 255.255.255.224 149.77.19.30

ip route 149.77.18.0 255.255.255.224 149.77.19.30

ip route 149.77.18.32 255.255.255.224 149.77.19.30

ip route 149.77.18.64 255.255.255.224 149.77.19.30

ip route 149.77.18.96 255.255.255.224 149.77.19.30

ip route 149.77.18.128 255.255.255.224 149.77.19.30

ip route 149.77.18.160 255.255.255.224 149.77.19.30

ip route 149.77.18.192 255.255.255.224 149.77.19.30

ip route 149.77.19.32 255.255.255.224 149.77.19.30

ip route 149.77.17.128 255.255.255.224 149.77.18.254

ip route 149.77.17.160 255.255.255.224 149.77.18.254

### **Router8:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.17.62

ip route 149.77.16.32 255.255.255.224 149.77.17.62

ip route 149.77.16.64 255.255.255.224 149.77.17.62

ip route 149.77.16.96 255.255.255.224 149.77.17.62

ip route 149.77.16.128 255.255.255.224 149.77.17.62

ip route 149.77.16.160 255.255.255.224 149.77.17.62

ip route 149.77.16.192 255.255.255.224 149.77.17.62

ip route 149.77.16.224 255.255.255.224 149.77.17.62

ip route 149.77.17.0 255.255.255.224 149.77.17.62

ip route 149.77.17.64 255.255.255.224 149.77.17.62

ip route 149.77.17.224 255.255.255.224 149.77.17.62

ip route 149.77.18.0 255.255.255.224 149.77.17.62

ip route 149.77.18.32 255.255.255.224 149.77.17.62

ip route 149.77.18.64 255.255.255.224 149.77.17.62

ip route 149.77.18.96 255.255.255.224 149.77.17.62

ip route 149.77.18.128 255.255.255.224 149.77.17.62

ip route 149.77.18.160 255.255.255.224 149.77.17.62

ip route 149.77.17.96 255.255.255.224 149.77.19.61

ip route 149.77.17.192 255.255.255.224 149.77.19.61

ip route 149.77.18.224 255.255.255.224 149.77.19.61

ip route 149.77.19.0 255.255.255.224 149.77.19.61

ip route 149.77.17.128 255.255.255.224 149.77.18.221

ip route 149.77.17.160 255.255.255.224 149.77.18.221

### **Router9:**

enable

configure terminal

ip route 149.77.16.0 255.255.255.224 149.77.19.62

ip route 149.77.16.32 255.255.255.224 149.77.19.62

ip route 149.77.16.64 255.255.255.224 149.77.19.62

ip route 149.77.16.96 255.255.255.224 149.77.19.62

ip route 149.77.16.128 255.255.255.224 149.77.19.62

ip route 149.77.16.160 255.255.255.224 149.77.19.62

ip route 149.77.16.192 255.255.255.224 149.77.19.62

ip route 149.77.16.224 255.255.255.224 149.77.19.62

ip route 149.77.17.0 255.255.255.224 149.77.19.62

ip route 149.77.17.32 255.255.255.224 149.77.19.62

ip route 149.77.17.64 255.255.255.224 149.77.19.62

ip route 149.77.17.96 255.255.255.224 149.77.19.62

ip route 149.77.17.128 255.255.255.224 149.77.19.62

ip route 149.77.17.160 255.255.255.224 149.77.19.62

ip route 149.77.17.224 255.255.255.224 149.77.19.62

ip route 149.77.18.0 255.255.255.224 149.77.19.62

ip route 149.77.18.32 255.255.255.224 149.77.19.62

ip route 149.77.18.64 255.255.255.224 149.77.19.62

ip route 149.77.18.96 255.255.255.224 149.77.19.62

ip route 149.77.18.128 255.255.255.224 149.77.19.62

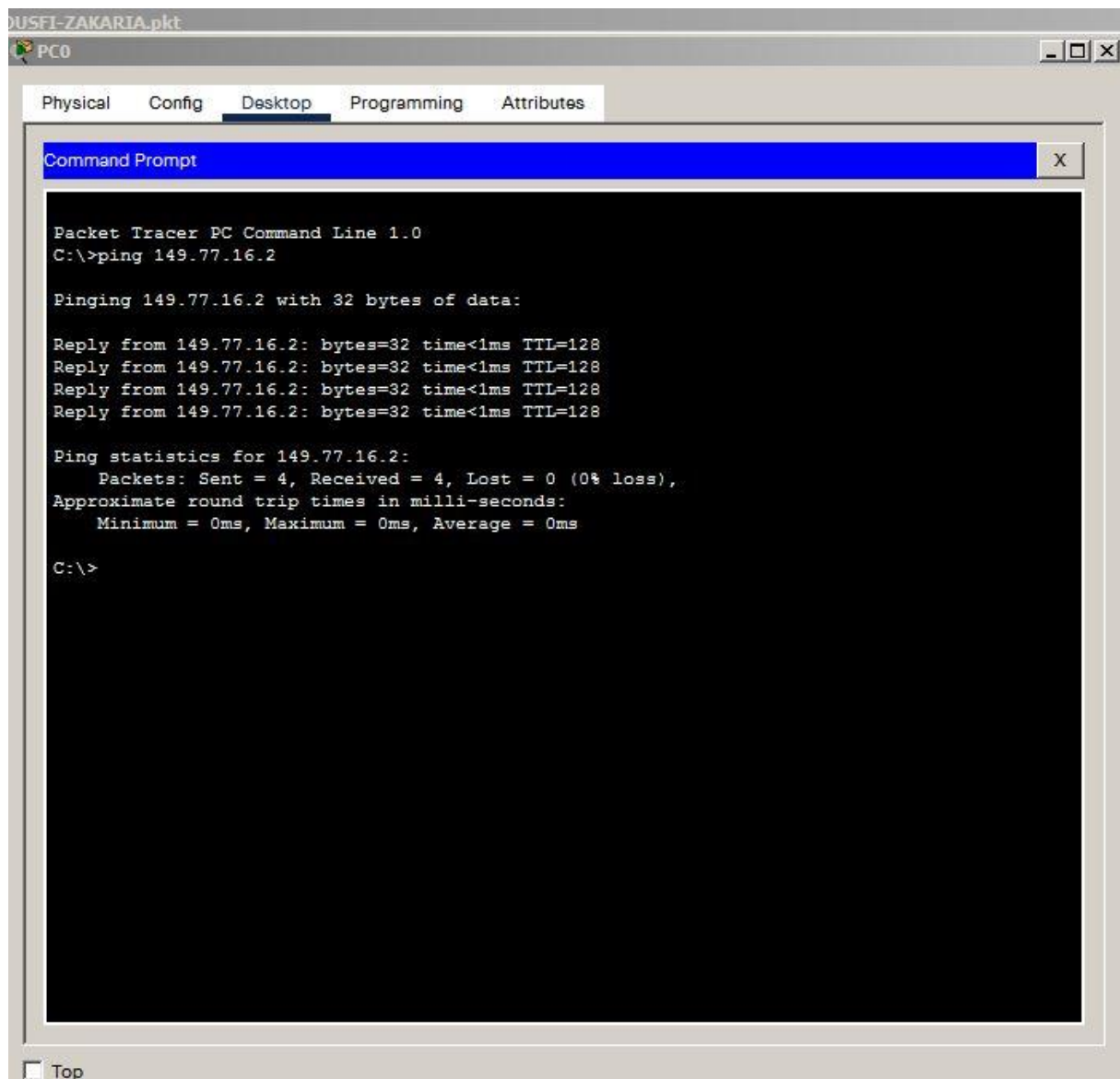
ip route 149.77.18.160 255.255.255.224 149.77.19.62

ip route 149.77.18.192 255.255.255.224 149.77.19.62

ip route 149.77.17.192 255.255.255.224 149.77.19.29

ip route 149.77.18.224 255.255.255.224 149.77.19.29

### 3) Les pings



The screenshot shows a Packet Tracer interface with a PC0 icon and tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt window. The Command Prompt shows the execution of the command 'ping 149.77.16.2'. The output indicates that the ping was successful, with 4 packets sent, 4 received, and 0% loss. The round trip times are all 0ms.

```
Packet Tracer PC Command Line 1.0
C:\>ping 149.77.16.2

Pinging 149.77.16.2 with 32 bytes of data:

Reply from 149.77.16.2: bytes=32 time<1ms TTL=128
Reply from 149.77.16.2: bytes=32 time<1ms TTL=128
Reply from 149.77.16.2: bytes=32 time<1ms TTL=128
Reply from 149.77.16.2: bytes=32 time<1ms TTL=128

Ping statistics for 149.77.16.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

```
C:\>ping 149.77.16.3

Pinging 149.77.16.3 with 32 bytes of data:

Reply from 149.77.16.3: bytes=32 time<1ms TTL=128
Reply from 149.77.16.3: bytes=32 time<1ms TTL=128
Reply from 149.77.16.3: bytes=32 time<1ms TTL=128
Reply from 149.77.16.3: bytes=32 time<1ms TTL=128

Ping statistics for 149.77.16.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

```
C:\>ping 149.77.16.33
```

```
Pinging 149.77.16.33 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.33: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.33: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.33: bytes=32 time=1ms TTL=127
```

```
Ping statistics for 149.77.16.33:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.193
```

```
Pinging 149.77.16.193 with 32 bytes of data:
```

```
Request timed out.
```

```
Request timed out.
```

```
Reply from 149.77.16.193: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.193: bytes=32 time<1ms TTL=126
```

```
Ping statistics for 149.77.16.193:
```

```
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.194
```

```
Pinging 149.77.16.194 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.194: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.194: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.194: bytes=32 time=1ms TTL=126
```

```
Ping statistics for 149.77.16.194:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.66
```

```
Pinging 149.77.16.66 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.66: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.66: bytes=32 time=1ms TTL=127
```

```
Reply from 149.77.16.66: bytes=32 time<1ms TTL=127
```

```
Ping statistics for 149.77.16.66:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.65
```

```
Pinging 149.77.16.65 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.65: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.65: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.65: bytes=32 time<1ms TTL=127
```

```
Ping statistics for 149.77.16.65:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.67
```

```
Pinging 149.77.16.67 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.67: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.67: bytes=32 time<1ms TTL=127
```

```
Reply from 149.77.16.67: bytes=32 time<1ms TTL=127
```

```
Ping statistics for 149.77.16.67:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.195
```

```
Pinging 149.77.16.195 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.195: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.195: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.195: bytes=32 time=6ms TTL=126
```

```
Ping statistics for 149.77.16.195:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 6ms, Average = 2ms
```

```
C:\>
```

```
C:\>ping 149.77.16.97
```

```
Pinging 149.77.16.97 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.97: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.97: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.97: bytes=32 time<1ms TTL=126
```

```
Ping statistics for 149.77.16.97:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```



```
C:\>ping 149.77.16.129
```

```
Pinging 149.77.16.129 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.129: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.129: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.129: bytes=32 time<1ms TTL=126
```

```
Ping statistics for 149.77.16.129:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.161
```

```
Pinging 149.77.16.161 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.161: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.161: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.161: bytes=32 time<1ms TTL=126
```

```
Ping statistics for 149.77.16.161:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.16.225
```

```
Pinging 149.77.16.225 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.225: bytes=32 time=2ms TTL=124
```

```
Reply from 149.77.16.225: bytes=32 time=2ms TTL=124
```

```
Reply from 149.77.16.225: bytes=32 time=2ms TTL=124
```

```
Ping statistics for 149.77.16.225:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:
```

```
    Minimum = 2ms, Maximum = 2ms, Average = 2ms
```

```
C:\>
```

```
C:\>ping 149.77.16.196
```

```
Pinging 149.77.16.196 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.16.196: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.196: bytes=32 time<1ms TTL=126
```

```
Reply from 149.77.16.196: bytes=32 time=1ms TTL=126
```

```
Ping statistics for 149.77.16.196:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>
```

```
C:\>ping 149.77.17.225
```

```
Pinging 149.77.17.225 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.225: bytes=32 time=2ms TTL=125
```

```
Reply from 149.77.17.225: bytes=32 time=2ms TTL=125
```

```
Reply from 149.77.17.225: bytes=32 time=2ms TTL=125
```

```
Ping statistics for 149.77.17.225:
```

```
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 2ms, Maximum = 2ms, Average = 2ms
```

```
C:\>
```

```
C:\>ping 149.77.18.33
```

```
Pinging 149.77.18.33 with 32 bytes of data:
```

```
Request timed out.
```

```
Request timed out.
```

```
Reply from 149.77.18.33: bytes=32 time=38ms TTL=123
```

```
Reply from 149.77.18.33: bytes=32 time=4ms TTL=123
```

```
Ping statistics for 149.77.18.33:
```

```
Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 4ms, Maximum = 38ms, Average = 21ms
```

```
C:\>
```

```
C:\>ping 149.77.17.1
```

```
Pinging 149.77.17.1 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.1: bytes=32 time=3ms TTL=124
```

```
Reply from 149.77.17.1: bytes=32 time=2ms TTL=124
```

```
Reply from 149.77.17.1: bytes=32 time=2ms TTL=124
```

```
Ping statistics for 149.77.17.1:
```

```
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 2ms, Maximum = 3ms, Average = 2ms
```

```
C:\>
```

```
C:\>ping 149.77.18.1
```

```
Pinging 149.77.18.1 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.18.1: bytes=32 time=10ms TTL=123
```

```
Reply from 149.77.18.1: bytes=32 time=10ms TTL=123
```

```
Reply from 149.77.18.1: bytes=32 time=11ms TTL=123
```

```
Ping statistics for 149.77.18.1:
```

```
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 10ms, Maximum = 11ms, Average = 10ms
```

```
C:\>
```



```
C:\>ping 149.77.18.2

Pinging 149.77.18.2 with 32 bytes of data:

Request timed out.
Reply from 149.77.18.2: bytes=32 time=27ms TTL=123
Reply from 149.77.18.2: bytes=32 time=17ms TTL=123
Reply from 149.77.18.2: bytes=32 time=10ms TTL=123

Ping statistics for 149.77.18.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 27ms, Average = 18ms

C:\>
```

```
C:\>ping 149.77.18.65

Pinging 149.77.18.65 with 32 bytes of data:

Request timed out.
Reply from 149.77.18.65: bytes=32 time=11ms TTL=123
Reply from 149.77.18.65: bytes=32 time=40ms TTL=123
Reply from 149.77.18.65: bytes=32 time=10ms TTL=123

Ping statistics for 149.77.18.65:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 40ms, Average = 20ms

C:\>
```

```
C:\>ping 149.77.18.34

Pinging 149.77.18.34 with 32 bytes of data:

Request timed out.
Reply from 149.77.18.34: bytes=32 time=10ms TTL=123
Reply from 149.77.18.34: bytes=32 time=10ms TTL=123
Reply from 149.77.18.34: bytes=32 time=10ms TTL=123

Ping statistics for 149.77.18.34:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 10ms, Average = 10ms

C:\>
```

```
C:\>ping 149.77.17.226

Pinging 149.77.17.226 with 32 bytes of data:

Request timed out.
Reply from 149.77.17.226: bytes=32 time=10ms TTL=125
Reply from 149.77.17.226: bytes=32 time=23ms TTL=125
Reply from 149.77.17.226: bytes=32 time=10ms TTL=125

Ping statistics for 149.77.17.226:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 23ms, Average = 14ms

C:\>
```

```
C:\>ping 149.77.18.66
```

```
Pinging 149.77.18.66 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.18.66: bytes=32 time=10ms TTL=123
```

```
Reply from 149.77.18.66: bytes=32 time=10ms TTL=123
```

```
Reply from 149.77.18.66: bytes=32 time=10ms TTL=123
```

```
Ping statistics for 149.77.18.66:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 10ms, Maximum = 10ms, Average = 10ms
```

```
C:\>
```

```
C:\>ping 149.77.17.227
```

```
Pinging 149.77.17.227 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.227: bytes=32 time=52ms TTL=125
```

```
Reply from 149.77.17.227: bytes=32 time=10ms TTL=125
```

```
Reply from 149.77.17.227: bytes=32 time=11ms TTL=125
```

```
Ping statistics for 149.77.17.227:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 10ms, Maximum = 52ms, Average = 24ms
```

```
C:\>
```

```
C:\>ping 149.77.17.33
```

```
Pinging 149.77.17.33 with 32 bytes of data:
```

```
Request timed out.
```

```
Request timed out.
```

```
Request timed out.
```

```
Reply from 149.77.17.33: bytes=32 time=13ms TTL=122
```

```
Ping statistics for 149.77.17.33:
```

```
    Packets: Sent = 4, Received = 1, Lost = 3 (75% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 13ms, Maximum = 13ms, Average = 13ms
```

```
C:\>
```

```
C:\>ping 149.77.17.97
```

```
Pinging 149.77.17.97 with 32 bytes of data:
```

```
Request timed out.
```

```
Request timed out.
```

```
Reply from 149.77.17.97: bytes=32 time=11ms TTL=120
```

```
Reply from 149.77.17.97: bytes=32 time=13ms TTL=120
```

```
Ping statistics for 149.77.17.97:
```

```
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 11ms, Maximum = 13ms, Average = 12ms
```

```
C:\>
```

```
C:\>ping 149.77.17.161
```

```
Pinging 149.77.17.161 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.161: bytes=32 time=23ms TTL=120
```

```
Reply from 149.77.17.161: bytes=32 time=19ms TTL=120
```

```
Reply from 149.77.17.161: bytes=32 time=11ms TTL=120
```

```
Ping statistics for 149.77.17.161:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 11ms, Maximum = 23ms, Average = 17ms
```

```
C:\>
```

```
C:\>ping 149.77.17.129
```

```
Pinging 149.77.17.129 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.129: bytes=32 time=30ms TTL=120
```

```
Reply from 149.77.17.129: bytes=32 time=33ms TTL=120
```

```
Reply from 149.77.17.129: bytes=32 time=29ms TTL=120
```

```
Ping statistics for 149.77.17.129:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 29ms, Maximum = 33ms, Average = 30ms
```

```
C:\>
```

```
C:\>ping 149.77.17.193
```

```
Pinging 149.77.17.193 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.193: bytes=32 time=48ms TTL=119
```

```
Reply from 149.77.17.193: bytes=32 time=20ms TTL=119
```

```
Reply from 149.77.17.193: bytes=32 time=47ms TTL=119
```

```
Ping statistics for 149.77.17.193:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 20ms, Maximum = 48ms, Average = 38ms
```

```
C:\>
```

```
C:\>ping 149.77.17.65
```

```
Pinging 149.77.17.65 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 149.77.17.65: bytes=32 time=11ms TTL=122
```

```
Reply from 149.77.17.65: bytes=32 time=61ms TTL=122
```

```
Reply from 149.77.17.65: bytes=32 time=46ms TTL=122
```

```
Ping statistics for 149.77.17.65:
```

```
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 11ms, Maximum = 61ms, Average = 39ms
```

```
C:\>
```

#### 4) **Les Tables**

##### **a) Tables ARP des 10 routers**

Router0:

@ip PC0

@ip PC1

@ip PC2

@ip PC3

@ip PC4

@ip PC5

@ip PC29

@ip fa0/0

@ip fa6/0

@ip fa1/0

@ip fa0/0(router1)

Router1:

@ip PC15

@ip PC18

@ip PC19

@ip PC3

@ip PC4

@ip PC5

@ip PC6

@ip PC7

@ip PC8

@ip PC9

@ip fa1/0

@ip fa0/0

@ip fa6/0

@ip fa7/0

@ip fa8/0

@ip fa1/0(router0)

@ip se2/0

@ip se2/0(router2)

Router2:

@ip PC10

@ip PC28

@ip PC11

@ip PC12

@ip PC13

@ip PC14

@ip PC20

@ip PC21

@ip PC30

@ip se2/0

@ip se2/0(router1)

@ip se3/0

@ip se2/0(router1)

@ip fa0/0(router4)

@ip fa1/0(router4)

@ip fa6/0(router4)

@ip fa7/0(router4)

@ip fa7/0(router5)

@ip fa6/0(router5)

### Router3:

@ip PC16  
@ip PC17  
@ip se2/0  
@ip se3/0(router2)  
@ip se3/0  
@ip se2/0(router7)  
@ip fa0/0  
@ip fa1/0

### Router4:

@ip PC10  
@ip PC28  
@ip PC11  
@ip PC12  
@ip PC13  
@ip PC14  
@ip PC20  
@ip PC21  
@ip PC30  
@ip se2/0  
@ip se3/0(router1)  
@ip fa0/0  
@ip fa1/0  
@ip fa6/0  
@ip fa7/0  
@ip fa0/0(router2)  
@ip fa7/0(router5)  
@ip fa6/0(router5)

Router5:

@ip PC24

@ip PC10

@ip PC28

@ip PC11

@ip PC12

@ip PC13

@ip PC14

@ip PC20

@ip PC21

@ip PC30

@ip fa0/0

@ip fa1/0

@ip fa7/0

@ip fa6/0

@ip fa0/0(router8)

@ip fa0/0(router4)

@ip fa1/0(router4)

@ip fa6/0(router4)

@ip fa7/0(router4)

@ip fa0/0(router2)



Router6:

@ip PC26  
@ip PC22  
@ip se2/0  
@ip se2/0(router8)  
@ip se3/0  
@ip se3/0(router7)  
@ip fa0/0  
@ip fa1/0

Router7:

@ip PC27  
@ip se2/0  
@ip se2/0(router9)  
@ip se3/0  
@ip se3/0(router6)  
@ip fa0/0

Router8:

@ip PC24  
@ip se2/0  
@ip se2/0(router6)  
@ip se3/0  
@ip se3/0(router9)  
@ip fa0/0(router5)  
@ip fa0/0(router5)

Router9:

@ip PC23

@ip se2/0

@ip se2/0(router7)

@ip se3/0

@ip se3/0(router8)

@ip fa0/0

### **b)Tables ARP des 31 PCs**

PC0: @ip PC(1 & 2) @ip fa0/0(router0)  
PC1: @ip PC(0 & 2) @ip fa0/0(router0)  
PC2: @ip PC(0 & 1) @ip fa0/0(router0)  
PC3: @ip PC(4 & 5) @ip fa1/0(router0) @ip fa0/0(router1)  
PC4: @ip PC(3 & 5) @ip fa1/0(router0) @ip fa0/0(router1)  
PC5: @ip PC(3 & 4) @ip fa1/0(router0) @ip fa0/0(router1)  
PC6: @ip PC(7 & 8 & 9) @ip fa1/0(router1)  
PC7: @ip PC(6 & 8 & 9) @ip fa1/0(router1)  
PC8: @ip PC(6 & 7 & 9) @ip fa1/0(router1)  
PC9: @ip PC(6 & 7 & 8) @ip fa1/0(router1)  
PC10: @ip PC(21 & 30) @ip fa0/0(router2) @ip fa0/0(router4) @ip fa7/0(router5)  
PC11: @ip PC(12) @ip fa1/0(router4)  
PC12: @ip PC(11) @ip fa1/0(router4)  
PC13: @ip PC(20) @ip fa6/0(router4) @ip fa6/0(router4)  
PC14: @ip PC(28) @ip fa7/0(router4)  
PC15: @ip fa7/0(router1)  
PC16: @ip fa1/0(router3)  
PC17: @ip fa0/0(router3)  
PC18: @ip fa6/0(router1)  
PC19: @ip fa8/0(router1)  
PC20: @ip PC(13) @ip fa6/0(router4) @ip fa6/0(router4)  
PC21: @ip PC(10 & 30) @ip fa0/0(router2) @ip fa0/0(router4) @ip fa7/0(router5)  
PC22: @ip fa0/0(router6)  
PC23: @ip fa0/0(router9)  
PC24: @ip fa0/0(router8) @ip fa0/0(router5)  
PC25: @ip fa1/0(router5)  
PC26: @ip fa1/0(router6)  
PC27: @ip fa0/0(router7)  
PC28: @ip PC(14) @ip fa7/0(router4)  
PC29: @ip fa6/0(router0)  
PC30: @ip PC(10 & 21) @ip fa0/0(router2) @ip fa0/0(router4) @ip fa7/0(router5)

### c) Tables de Routage de 10 routers

SR	@IP SR Décimal	router 0	router 01	router 02	router 03	router 04
01	149.77.16.0	direct	149.77.16.94	149.77.18.126	149.77.18.158	149.77.18.190
02	149.77.16.32	direct	149.77.16.94	149.77.18.126	149.77.18.158	149.77.18.190
03	149.77.16.64	direct	direct	149.77.18.126	149.77.18.158	149.77.18.190
04	149.77.16.96	149.77.16.93	direct	149.77.18.126	149.77.18.158	149.77.18.190
05	149.77.16.128	149.77.16.93	direct	149.77.18.126	149.77.18.158	149.77.18.190
06	149.77.16.160	149.77.16.93	direct	149.77.18.126	149.77.18.158	149.77.18.190
07	149.77.16.192	149.77.16.93	direct	149.77.18.126	149.77.18.158	149.77.18.190
08	149.77.16.224	149.77.16.93	149.77.18.125	149.77.18.157	direct	149.77.18.190
09	149.77.17.0	149.77.16.93	149.77.18.125	149.77.18.157	direct	149.77.18.190
10	149.77.17.32	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
11	149.77.17.64	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
12	149.77.17.96	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
13	149.77.17.128	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
14	149.77.17.160	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
15	149.77.17.192	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
16	149.77.17.224	149.77.16.93	149.77.18.125	direct	149.77.18.189	direct
17	149.77.18.0	149.77.16.93	149.77.18.125	149.77.17.253	149.77.18.189	direct
18	149.77.18.32	149.77.16.93	149.77.18.125	149.77.17.253	149.77.18.189	direct
19	149.77.18.64	149.77.16.93	149.77.18.125	149.77.17.253	149.77.18.189	direct
20	149.77.18.96	149.77.16.93	direct	direct	149.77.18.189	149.77.18.190
21	149.77.18.128	149.77.16.93	149.77.18.125	direct	direct	149.77.18.190
22	149.77.18.160	149.77.16.93	149.77.18.125	149.77.18.157	direct	direct
23	149.77.18.192	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
24	149.77.18.224	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
25	149.77.19.0	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252
26	149.77.19.32	149.77.16.93	149.77.18.125	149.77.18.157	149.77.18.189	149.77.17.252

SR	@IP SR Décimal	router 05	router 06	router 07	router 08	router 09
01	149.77.16.0	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
02	149.77.16.32	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
03	149.77.16.64	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
04	149.77.16.96	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
05	149.77.16.128	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
06	149.77.16.160	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
07	149.77.16.192	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
08	149.77.16.224	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
09	149.77.17.0	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
10	149.77.17.32	direct	149.77.18.222	149.77.19.30	direct	149.77.19.62
11	149.77.17.64	direct	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
12	149.77.17.96	149.77.17.61	149.77.18.253	149.77.19.30	149.77.19.61	direct
13	149.77.17.128	149.77.17.61	direct	149.77.18.254	149.77.19.61	149.77.19.62
14	149.77.17.160	149.77.17.61	direct	149.77.18.254	149.77.19.61	149.77.19.62
15	149.77.17.192	149.77.17.61	149.77.18.253	direct	149.77.19.61	149.77.19.29
16	149.77.17.224	direct	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
17	149.77.18.0	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
18	149.77.18.32	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
19	149.77.18.64	direct	149.77.18.253	149.77.19.30	149.77.17.62	149.77.19.62
20	149.77.18.96	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
21	149.77.18.128	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
22	149.77.18.160	149.77.18.94	149.77.18.222	149.77.19.30	149.77.17.62	149.77.19.62
23	149.77.18.192	149.77.17.61	direct	149.77.19.30	direct	149.77.19.62
24	149.77.18.224	149.77.17.61	direct	direct	149.77.19.61	149.77.19.29
25	149.77.19.0	149.77.17.61	149.77.18.222	direct	149.77.19.61	direct
26	149.77.19.32	149.77.17.61	149.77.18.222	149.77.19.30	direct	direct

#### **d)Tables MAC des 10 Commutateurs :**

##### **switch0:**

@MAC PC0  
@MAC PC1  
@MAC PC2  
@MAC router0 fa0/16

##### **switch1:**

@MAC PC3  
@MAC PC4  
@MAC PC5  
@MAC router0 fa0/1  
@MAC router1 fa0/2

##### **switch2:**

@MAC PC6  
@MAC PC7  
@MAC PC8  
@MAC PC9  
@MAC switch3 fa0/1  
@MAC router1 fa1/0

##### **switch3:**

@MAC PC6  
@MAC PC7  
@MAC PC8  
@MAC PC9  
@MAC router1 fa0/3  
@MAC switch2 fa0/3

**switch4:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/1

@MAC router4 fa0/5

@MAC router5 fa0/2

@MAC switch6 fa0/2

@MAC switch5 fa0/2

@MAC switch10 fa0/2

@MAC switch9 fa0/2

@MAC switch8 fa0/2

**switch5:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/1

@MAC router4 fa0/4

@MAC router5 fa0/5

@MAC switch6 fa0/2

@MAC switch4 fa0/1

@MAC switch10 fa0/5

@MAC switch9 fa0/5

@MAC switch8 fa0/5



**switch5:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/1

@MAC router4 fa0/2

@MAC router5 fa0/2

@MAC switch5 fa0/2

@MAC switch4 fa0/1

@MAC switch10 fa0/2

@MAC switch9 fa0/2

@MAC switch8 fa0/2

**switch6:**

@MAC PC24

@MAC router5 fa0/22

@MAC router8 fa0/21

**switch8:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/3

@MAC router4 fa0/1

@MAC router5 fa7/0

@MAC switch5 fa0/3

@MAC switch4 fa0/3

@MAC switch10 fa0/3

@MAC switch9 fa0/3

@MAC switch6 fa0/3

**switch9:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/3

@MAC router4 fa0/1

@MAC router5 fa0/2

@MAC switch5 fa0/6

@MAC switch4 fa0/6

@MAC switch10 fa0/6

@MAC switch6 fa0/6

@MAC switch8 fa0/3

**switch10:**

@MAC PC10

@MAC PC11

@MAC PC12

@MAC PC13

@MAC PC14

@MAC PC20

@MAC PC21

@MAC PC28

@MAC PC30

@MAC router2 fa0/1

@MAC router4 fa0/1

@MAC router5 fa0/2

@MAC switch5 fa0/1

@MAC switch4 fa0/1

@MAC switch6 fa0/1

@MAC switch9 fa0/2

@MAC switch8 fa0/2