EIGRP Tables:

EIGRP maintains three tables. 1) Neighbor Table, 2) Topology Table and 3) Routing Table.

Neighbor Table:

Neighbor table includes all neighbors that is directly connected to router using EIGRP. In simple words, next hop router and the interfaces.

Topology Table:

EIGRP uses this table to store all routes, which it learned from neighbors. It contains a list of all destinations and routes advertised by neighboring routers. The EIGRP Topology table contains everything that EIGRP has learned.

Routing Table:

EIGRP stores single best (Successor) route for each destination in this table. Router uses this table to forward the packet. There is a separate routing table for each routed protocol.

EIGRP Neighbor Table Explanation:

```
R1#show ip eigrp neighbors
EIGRP-IPv4 Neighbors for AS(1)
H   Address                 Interface       Hold Uptime   SRTT   RTO  Q  Seq
                                            (sec)         (ms)       Cnt Num
1   192.168.2.3             Gi1/0             11 00:01:41   53   318  0  6
0   192.168.1.2             Fa0/0             14 00:01:41   34   204  0  7
```

H (Handle)	Lists the neighbors in the order this router was learned
Address	The IP address of the neighbors
Interface	The interface of the local router on which this Hello packet was received
Hold	The amount of time left before neighbor is considered in “down” status
Uptime	How long the neighbor has been up
SRTT	(Smooth Round Trip Time): The number of milliseconds it takes to send an EIGRP packet to neighbor and receive an acknowledgment packet back
RTO	(Retransmission Timeout): if a multicast has failed, then a unicast is sent to that particular router, the RTO is the time in milliseconds that the router waits for an acknowledgement of that unicast.
Q Cnt	(Q Count): Shows the number of queued EIGRP packets. It is usually 0
Seq Num	The sequence number of the last update EIGRP packet received

EIGRP Topology Table Explanation:

```
R3#show ip eigrp topology
EIGRP-IPv4 Topology Table for AS(1)/ID(192.168.3.3)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 192.168.3.0/24, 1 successors, FD is 2816
        via Connected, GigabitEthernet2/0
P 192.168.2.0/24, 1 successors, FD is 2816
        via Connected, GigabitEthernet1/0
P 192.168.1.0/24, 2 successors, FD is 28416
        via 192.168.2.1 (28416/28160), GigabitEthernet1/0
        via 192.168.3.2 (28416/28160), GigabitEthernet2/0
P 1.1.1.0/24, 1 successors, FD is 130816
        via 192.168.2.1 (130816/128256), GigabitEthernet1/0
```

AS	Autonomous System number 1
Codes	Passive is good and Active is bad
Sia Status (Stuck in Active)	EIGRP has not received a reply to a query packet from one of the neighbors within the allowed time about 3 minutes.
1 Successors	The best path in this case only one way to get to the destination
FD is 2816	Feasible Distance: Total distance to get to the destination
28416/28160	First, one is Feasible Distance. The second Value is Advertised Distance

EIGRP Routing Table Explanation:

```
R1#show ip route eigrp
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route, + - replicated route

Gateway of last resort is not set

D     192.168.3.0/24 [90/3072] via 192.168.2.3, 00:49:16, GigabitEthernet1/0
```

D	Shows this is an EIGRP learnt route
192.168.3.0/24	Destination learn network and 24 is subnet mask.
90	90, is the Administrative Distance of EIGRP.
3072	This is the metric, Total distance to get to the destination
192.168.2.3	The neighbor that advertised the route.
00:49:16	Time since the route was learnt.
GigabitE1/0	The outbound interface going towards the destination.