

**МИНОБРНАУКИ РОССИИ**  
**САНКТ-ПЕТЕРБУРГСКИЙ ГОСУДАРСТВЕННЫЙ**  
**ЭЛЕКТРОТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ**  
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**ОТЧЕТ**  
**по лабораторной работе №2**  
**по дисциплине «Сети и телекоммуникации»**  
**Тема: Настройка таблиц маршрутизации.**

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### **Цель работы.**

Изучение и практическое освоение методов статической маршрутизации на узлах сетевого уровня в IP-сетях.

### **Задание.**

1. Для всех узлов сети установить IP-адреса, маски подсетей и шлюзы по умолчанию, чтобы добиться успешного выполнения Echo-запроса ближайших соседей (находящихся в одной подсети).

2. Настроить таблицы маршрутизации на маршрутизаторах, чтобы добиться доставки пакетов от узла K1 к узлу K2 и обратно, от узла K2 к K3 и обратно, от узла K3 к K1 и обратно. Пакеты должны доходить до узлов кратчайшим путем.

3. Настроить таблицы маршрутизации на узлах K1, K2 и K3, чтобы обеспечить кратчайшую доставку пакетов между этими узлами, если это невозможно было обеспечить в п. 2.

В отчете привести конфигурацию TCP/IP для каждого из узлов, таблицы маршрутизации, результаты Echo-запросов между узлами K1, K2 и K3, а также обоснование правильности и оптимальности выбранных маршрутов.

### **Вариант 13.**

Файл со схемой сети: lab2\_var13.jfst. Все маршрутизаторы и компьютеры имеют адреса из диапазона 172.1.1.1 – 172.254.254.254. Обозначения в задании: K1 – PC1, K2 – PC2, K3 – PC3.

## Выполнение работы.

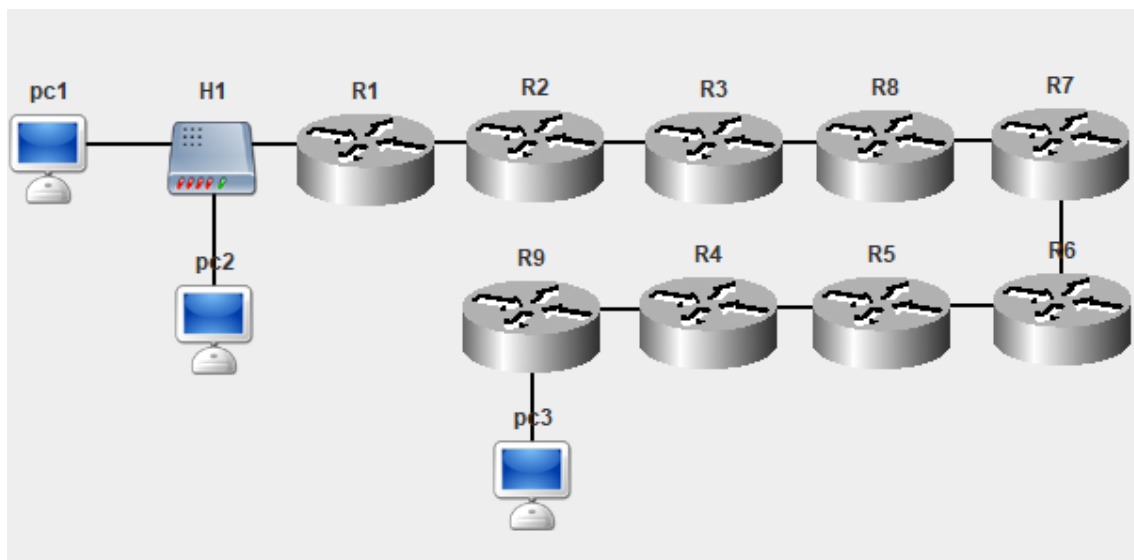


Рисунок 1. Схема сети.

1. Были установлены следующие настройки узлов:

Имя узла	Интерфейс	IP	Маска	Шлюз
pc1	eth0	172.1.1.1	255.255.255.0	172.1.1.11
pc2	eth0	172.1.1.2	255.255.255.0	172.1.1.11
pc3	eth0	172.1.10.3	255.255.255.0	172.1.10.19
R1	eth0	172.1.1.11	255.255.255.0	172.1.2.12
	eth1	172.1.2.11	255.255.255.0	
R2	eth0	172.1.2.12	255.255.255.0	172.1.3.13
	eth1	172.1.3.12	255.255.255.0	
R3	eth0	172.1.3.13	255.255.255.0	172.1.8.18
	eth1	172.1.8.13	255.255.255.0	
R4	eth0	172.1.9.14	255.255.255.0	172.1.9.19
	eth1	172.1.4.14	255.255.255.0	
R5	eth0	172.1.4.15	255.255.255.0	172.1.4.14
	eth1	172.1.5.15	255.255.255.0	
R6	eth0	172.1.6.16	255.255.255.0	172.1.5.15
	eth1	172.1.5.16		

R7	eth0	172.1.7.17	255.255.255.0	172.1.6.16
	eth1	172.1.6.17	255.255.255.0	
R8	eth0	172.1.8.18	255.255.255.0	172.1.7.17
	eth1	172.1.7.18	255.255.255.0	
R9	eth0	172.1.10.19	255.255.255.0	172.1.10.3
	eth1	172.1.9.19	255.255.255.0	

2. Для корректной доставки пакетов было выделено десять подсетей. Первая включает в себя узлы PC1-R1-PC2, вторая включает узлы R1-R2, третья включает узлы R2-R3, четвертая включает R3-R8, пятая – R8-R7, шестая – R7-R6, седьмая – R6-R5, восьмая – R5-R4, девятая – R4-R9, десятая – R9-PC3.

Выполнен эхо-запрос с PC1 на PC2:

Time	IP	Interface	Link	Interface state	State
15:31:34-400	pc1	Echo Request Packet	Network	Created Echo Request packet to 172.1.1.2	
15:31:34-401	pc1	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.1.2	
15:31:34-401	pc1	ARP_packet	Network	Sending broadcast packet from ProtocolStack	
15:31:34-401	pc1	Ethernet Packet	Link	Sending packet from interface C3:C4:2B:18:49:8E	
15:31:34-401	pc2	Ethernet Packet	Link	Received and accepted packet at interface 3C:85:9B:6C:4F:40	
15:31:34-401	pc2	ARP_packet	Network	ProtocolStack received packet from local Interface.	
15:31:34-401	pc2	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.	
15:31:34-401	pc2	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.1.1	
15:31:34-401	pc2	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.1).	
15:31:34-401	pc2	Ethernet Packet	Link	Sending packet from interface 3C:85:9B:6C:4F:40	
15:31:34-401	pc1	Ethernet Packet	Link	Received and accepted packet at interface C3:C4:2B:18:49:8E	
15:31:34-401	pc1	ARP_packet	Network	ProtocolStack received packet from local Interface.	
15:31:34-401	pc1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.	
15:31:34-401	R1	Ethernet Packet	Link	Received and dropped packet at interface AC:76:25:A4:1B:62	
15:31:34-401	R1	Ethernet Packet	Link	Received and accepted packet at interface AC:76:25:A4:1B:62	
15:31:34-401	R1	ARP_packet	Network	ProtocolStack received packet from local Interface.	
15:31:34-402	pc1	ICMP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.2).	
15:31:34-402	pc1	Ethernet Packet	Link	Sending packet from interface C3:C4:2B:18:49:8E	
15:31:34-402	pc2	Ethernet Packet	Link	Received and accepted packet at interface 3C:85:9B:6C:4F:40	
15:31:34-402	pc2	ICMP_packet	Network	ProtocolStack received packet from local Interface.	
15:31:34-402	pc2	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.	
15:31:34-402	pc2	Echo Reply Packet	Network	Created Echo Reply packet to 172.1.1.1	
15:31:34-402	pc2	ICMP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.1).	
15:31:34-402	pc2	Ethernet Packet	Link	Sending packet from interface 3C:85:9B:6C:4F:40	
15:31:34-402	pc1	Ethernet Packet	Link	Received and accepted packet at interface C3:C4:2B:18:49:8E	
15:31:34-402	pc1	ICMP_packet	Network	ProtocolStack received packet from local Interface.	
15:31:34-402	pc1	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.	
15:31:34-402	pc1	Echo Reply Packet	Network	Echo reply packet received from 172.1.1.2	
15:31:34-402	R1	Ethernet Packet	Link	Received and dropped packet at interface AC:76:25:A4:1B:62	
15:31:34-402	R1	Ethernet Packet	Link	Received and dropped packet at interface AC:76:25:A4:1B:62	

Рисунок 2. эхо-запрос с PC1 на PC2

Для маршрутизатора R1 добавление статического маршрута не потребовалось. Таблицы маршрутизации для узлов R2-R9:

(Codes: C - connected, S - static, R - RIP, B - BGP, O - OSPF, \* - candidate default)

Маршрутизатор R2:

S 172.1.1.0/255.255.255.0[0] via 172.1.2.11 (eth0)  
S\* default/0.0.0.0[0] via 172.1.3.13 (eth0)  
C 172.1.3.12/255.255.255.0 is directly connected, eth1  
C 172.1.2.12/255.255.255.0 is directly connected, eth0

Маршрутизатор R3:

S 172.1.1.0/255.255.255.0[0] via 172.1.3.12 (eth0)  
S\* default/0.0.0.0[0] via 172.1.8.18 (eth0)  
C 172.1.8.13/255.255.255.0 is directly connected, eth1  
C 172.1.3.13/255.255.255.0 is directly connected, eth0

Маршрутизатор R4:

S 172.1.1.0/255.255.255.0[0] via 172.1.4.15 (eth1)  
S\* default/0.0.0.0[0] via 172.1.9.19 (eth0)  
C 172.1.4.14/255.255.255.0 is directly connected, eth1  
C 172.1.9.14/255.255.255.0 is directly connected, eth0

Маршрутизатор R5:

S 172.1.1.0/255.255.255.0[0] via 172.1.5.16 (eth1)  
S\* default/0.0.0.0[0] via 172.1.4.14 (eth0)  
C 172.1.5.15/255.255.255.0 is directly connected, eth1  
C 172.1.4.15/255.255.255.0 is directly connected, eth0

Маршрутизатор R6:

S 172.1.1.0/255.255.255.0[0] via 172.1.6.17 (eth0)  
S\* default/0.0.0.0[0] via 172.1.5.15 (eth0)  
C 172.1.5.16/255.255.255.0 is directly connected, eth1  
C 172.1.6.16/255.255.255.0 is directly connected, eth0

Маршрутизатор R7:

S 172.1.1.0/255.255.255.0[0] via 172.1.7.18 (eth0)  
S\* default/0.0.0.0[0] via 172.1.6.16 (eth0)  
C 172.1.6.17/255.255.255.0 is directly connected, eth1  
C 172.1.7.17/255.255.255.0 is directly connected, eth0

### Маршрутизатор R8:

S 172.1.1.0/255.255.255.0[0] via 172.1.8.13 (eth0)  
 S\* default/0.0.0.0[0] via 172.1.7.17 (eth0)  
 C 172.1.7.18/255.255.255.0 is directly connected, eth1  
 C 172.1.8.18/255.255.255.0 is directly connected, eth0

### Маршрутизатор R9:

S 172.1.1.0/255.255.255.0[0] via 172.1.9.14 (eth1)  
 S\* default/0.0.0.0[0] via 172.1.10.3 (eth0)  
 C 172.1.9.19/255.255.255.0 is directly connected, eth1  
 C 172.1.10.19/255.255.255.0 is directly connected, eth0

Был выполнен echo-запрос с PC1 на PC3:

17:36:04-688	pc3	Echo Request Packet	Network	Created Echo Request packet to 172.1.1.1
17:36:04-688	pc3	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.10.19
17:36:04-688	pc3	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17:36:04-688	pc3	Ethernet Packet	Link	Sending packet from interface 72:7C:53:98:88:A5
17:36:04-688	R9	Ethernet Packet	Link	Recieved and accepted packet at interface AF:1C:B8:55:65:77
17:36:04-688	R9	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R9	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	R9	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.10.3
17:36:04-688	R9	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.10.3).
17:36:04-688	R9	Ethernet Packet	Link	Sending packet from interface AF:1C:B8:55:65:77
17:36:04-688	pc3	Ethernet Packet	Link	Recieved and accepted packet at interface 72:7C:53:98:88:A5
17:36:04-688	pc3	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	pc3	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	pc3	ICMP_packet	Network	Sending packet from ProtocolStack (to 172.1.10.19).
17:36:04-688	pc3	Ethernet Packet	Link	Sending packet from interface 72:7C:53:98:88:A5
17:36:04-688	R9	Ethernet Packet	Link	Recieved and accepted packet at interface AF:1C:B8:55:65:77
17:36:04-688	R9	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R9	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-688	R9	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.9.14
17:36:04-688	R9	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17:36:04-688	R9	Ethernet Packet	Link	Sending packet from interface 1E:25:38:AB:4E:75
17:36:04-688	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 9C:AF:67:C1:9E:87
17:36:04-688	R4	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R4	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	R4	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.9.19
17:36:04-688	R4	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.9.19).
17:36:04-688	R4	Ethernet Packet	Link	Sending packet from interface 9C:AF:67:C1:9E:87
17:36:04-688	R9	Ethernet Packet	Link	Recieved and accepted packet at interface 1E:25:38:AB:4E:75
17:36:04-688	R9	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R9	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	R9	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.9.14).
17:36:04-688	R9	Ethernet Packet	Link	Sending packet from interface 1E:25:38:AB:4E:75
17:36:04-688	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 9C:AF:67:C1:9E:87
17:36:04-688	R4	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R4	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-688	R4	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.4.15
17:36:04-688	R4	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17:36:04-688	R4	Ethernet Packet	Link	Sending packet from interface 81:91:12:8E:5B:B4
17:36:04-688	R5	Ethernet Packet	Link	Recieved and accepted packet at interface 65:14:AF:61:98:69
17:36:04-688	R5	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R5	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	R5	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.4.14
17:36:04-688	R5	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.4.14).
17:36:04-688	R5	Ethernet Packet	Link	Sending packet from interface 65:14:AF:61:98:69
17:36:04-688	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 81:91:12:8E:5B:B4
17:36:04-688	R4	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R4	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-688	R4	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.4.15).
17:36:04-688	R4	Ethernet Packet	Link	Sending packet from interface 81:91:12:8E:5B:B4
17:36:04-688	R5	Ethernet Packet	Link	Recieved and accepted packet at interface 65:14:AF:61:98:69
17:36:04-688	R5	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-688	R5	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-688	R5	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.5.16





17:36:04-689	R1	Ethernet Packet	Link	Recieved and accepted packet at interface 1B:83:31:69:22:89
17:36:04-689	R1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-689	R1	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.2.12
17:36:04-689	R1	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.2.12).
17:36:04-689	R1	Ethernet Packet	Link	Sending packet from interface 1B:83:31:69:22:89
17:36:04-689	R2	Ethernet Packet	Link	Recieved and accepted packet at interface 5D:90:98:59:33:54
17:36:04-689	R2	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R2	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-689	R2	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.2.11).
17:36:04-689	R2	Ethernet Packet	Link	Sending packet from interface 5D:90:98:59:33:54
17:36:04-689	R1	Ethernet Packet	Link	Recieved and accepted packet at interface 1B:83:31:69:22:89
17:36:04-689	R1	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R1	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R1	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.1.1
17:36:04-689	R1	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:36:04-689	R1	Ethernet Packet	Link	Sending packet from interface 63:68:80:49:A2:AA
17:36:04-689	pc2	Ethernet Packet	Link	Recieved and accepted packet at interface 84:5A:C7:79:2D:C5
17:36:04-689	pc2	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	pc1	Ethernet Packet	Link	Recieved and accepted packet at interface 35:C7:45:AB:21:1B
17:36:04-689	pc1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	pc1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-689	pc1	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.1.11
17:36:04-689	pc1	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.11).
17:36:04-689	pc1	Ethernet Packet	Link	Sending packet from interface 35:C7:45:AB:21:1B
17:36:04-689	pc2	Ethernet Packet	Link	Recieved and dropped packet at interface 84:5A:C7:79:2D:C5
17:36:04-689	R1	Ethernet Packet	Link	Recieved and accepted packet at interface 63:68:80:49:A2:AA
17:36:04-689	R1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-689	R1	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.1.1).
17:36:04-689	R1	Ethernet Packet	Link	Sending packet from interface 63:68:80:49:A2:AA
17:36:04-689	pc2	Ethernet Packet	Link	Recieved and dropped packet at interface 84:5A:C7:79:2D:C5
17:36:04-689	pc1	Ethernet Packet	Link	Recieved and accepted packet at interface 35:C7:45:AB:21:1B
17:36:04-689	pc1	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	pc1	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-689	pc1	Echo Reply Packet	Network	Created Echo Reply packet to 172.1.10.3
17:36:04-689	pc1	ICMP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.11).
17:36:04-689	pc1	Ethernet Packet	Link	Sending packet from interface 35:C7:45:AB:21:1B
17:36:04-689	pc2	Ethernet Packet	Link	Recieved and dropped packet at interface 84:5A:C7:79:2D:C5
17:36:04-689	R1	Ethernet Packet	Link	Recieved and accepted packet at interface 63:68:80:49:A2:AA
17:36:04-689	R1	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R1	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R1	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.2.12).
17:36:04-689	R1	Ethernet Packet	Link	Sending packet from interface 1B:83:31:69:22:89
17:36:04-689	R2	Ethernet Packet	Link	Recieved and accepted packet at interface 5D:90:98:59:33:54
17:36:04-689	R2	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R2	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R2	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.3.13).
17:36:04-689	R2	Ethernet Packet	Link	Sending packet from interface AE:56:49:C0:AA:25
17:36:04-689	R3	Ethernet Packet	Link	Recieved and accepted packet at interface 65:6F:41:7D:24:97
17:36:04-689	R3	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R3	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R3	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.8.18).
17:36:04-689	R3	Ethernet Packet	Link	Sending packet from interface B5:7A:64:37:6D:9E
17:36:04-689	R8	Ethernet Packet	Link	Recieved and accepted packet at interface 34:B9:13:1F:1F:C2
17:36:04-689	R8	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R8	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R8	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.7.17).
17:36:04-689	R8	Ethernet Packet	Link	Sending packet from interface 7A:83:7F:A5:2C:4B
17:36:04-689	R7	Ethernet Packet	Link	Recieved and accepted packet at interface 3A:A9:15:22:73:56
17:36:04-689	R7	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R7	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R7	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.6.16).
17:36:04-689	R7	Ethernet Packet	Link	Sending packet from interface 9C:8E:33:76:42:C5
17:36:04-689	R6	Ethernet Packet	Link	Recieved and accepted packet at interface 72:96:57:2E:25:8F
17:36:04-689	R6	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-689	R6	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-689	R6	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.5.15).
17:36:04-689	R6	Ethernet Packet	Link	Sending packet from interface 20:82:8D:25:13:5B
17:36:04-690	R5	Ethernet Packet	Link	Recieved and accepted packet at interface A9:AC:53:74:83:90
17:36:04-690	R5	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-690	R5	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-690	R5	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.4.14).
17:36:04-690	R5	Ethernet Packet	Link	Sending packet from interface 65:14:AF:61:98:69
17:36:04-690	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 81:91:12:8E:5B:B4
17:36:04-690	R4	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-690	R4	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-690	R4	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.9.19).
17:36:04-690	R4	Ethernet Packet	Link	Sending packet from interface 9C:AF:67:C1:9E:87
17:36:04-690	R9	Ethernet Packet	Link	Recieved and accepted packet at interface 1E:25:38:AB:4E:75
17:36:04-690	R9	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-690	R9	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:36:04-690	R9	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.10.3).
17:36:04-690	R9	Ethernet Packet	Link	Sending packet from interface AF:1C:B8:55:65:77
17:36:04-690	pc3	Ethernet Packet	Link	Recieved and accepted packet at interface 72:7C:53:98:88:A5
17:36:04-690	pc3	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:36:04-690	pc3	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:36:04-690	pc3	Echo Reply Packet	Network	Echo reply packet received from 172.1.1.1

Рисунки 3.1-3.5. echo-запрос с PC1 на PC3



Был выполнен эхо-запрос с PC2 на PC3:

17.42.13-337	pc3	Echo Request Packet	Network	Created Echo Request packet to 172.1.1.2
17.42.13-338	pc3	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.10.19
17.42.13-338	pc3	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17.42.13-338	pc3	Ethernet Packet	Link	Sending packet from interface 72:7C:53:98:88:A5
17.42.13-338	R9	Ethernet Packet	Link	Recieved and accepted packet at interface AF:1C:B8:55:65:77
17.42.13-338	R9	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R9	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R9	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.10.3
17.42.13-338	R9	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.10.3).
17.42.13-338	R9	Ethernet Packet	Link	Sending packet from interface AF:1C:B8:55:65:77
17.42.13-338	pc3	Ethernet Packet	Link	Recieved and accepted packet at interface 72:7C:53:98:88:A5
17.42.13-338	pc3	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	pc3	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	pc3	ICMP_packet	Network	Sending packet from ProtocolStack (to 172.1.10.19).
17.42.13-338	pc3	Ethernet Packet	Link	Sending packet from interface 72:7C:53:98:88:A5
17.42.13-338	R9	Ethernet Packet	Link	Recieved and accepted packet at interface AF:1C:B8:55:65:77
17.42.13-338	R9	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R9	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17.42.13-338	R9	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.9.14
17.42.13-338	R9	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17.42.13-338	R9	Ethernet Packet	Link	Sending packet from interface 1E:25:38:AB:4E:75
17.42.13-338	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 9C:AF:67:C1:9E:87
17.42.13-338	R4	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R4	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R4	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.9.19
17.42.13-338	R4	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.9.19).
17.42.13-338	R4	Ethernet Packet	Link	Sending packet from interface 9C:AF:67:C1:9E:87
17.42.13-338	R9	Ethernet Packet	Link	Recieved and accepted packet at interface 1E:25:38:AB:4E:75
17.42.13-338	R9	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R9	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R9	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.9.14).
17.42.13-338	R9	Ethernet Packet	Link	Sending packet from interface 1E:25:38:AB:4E:75
17.42.13-338	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 9C:AF:67:C1:9E:87
17.42.13-338	R4	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R4	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17.42.13-338	R4	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.4.15
17.42.13-338	R4	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17.42.13-338	R4	Ethernet Packet	Link	Sending packet from interface 81:91:12:8E:5B:B4
17.42.13-338	R5	Ethernet Packet	Link	Recieved and accepted packet at interface 65:14:AF:61:98:69
17.42.13-338	R5	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R5	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R5	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.4.14
17.42.13-338	R5	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.4.14).
17.42.13-338	R5	Ethernet Packet	Link	Sending packet from interface 65:14:AF:61:98:69
17.42.13-338	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 81:91:12:8E:5B:B4
17.42.13-338	R4	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R4	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R4	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.4.15).
17.42.13-338	R4	Ethernet Packet	Link	Sending packet from interface 81:91:12:8E:5B:B4
17.42.13-338	R5	Ethernet Packet	Link	Recieved and accepted packet at interface 65:14:AF:61:98:69
17.42.13-338	R5	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R5	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17.42.13-338	R5	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.5.16

17.42.13-338	R5	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17.42.13-338	R5	Ethernet Packet	Link	Sending packet from interface A9:AC:53:74:83:90
17.42.13-338	R6	Ethernet Packet	Link	Recieved and accepted packet at interface 20:82:8D:25:13:5B
17.42.13-338	R6	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R6	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R6	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.5.15
17.42.13-338	R6	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.5.15).
17.42.13-338	R6	Ethernet Packet	Link	Sending packet from interface 20:82:8D:25:13:5B
17.42.13-338	R5	Ethernet Packet	Link	Recieved and accepted packet at interface A9:AC:53:74:83:90
17.42.13-338	R5	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R5	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R5	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.5.16).
17.42.13-338	R5	Ethernet Packet	Link	Sending packet from interface A9:AC:53:74:83:90
17.42.13-338	R6	Ethernet Packet	Link	Recieved and accepted packet at interface 20:82:8D:25:13:5B
17.42.13-338	R6	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R6	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17.42.13-338	R6	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.6.17
17.42.13-338	R6	ARP_packet	Network	Sending broadcast packet from ProtocolStack
17.42.13-338	R6	Ethernet Packet	Link	Sending packet from interface 72:96:57:2E:25:8F
17.42.13-338	R7	Ethernet Packet	Link	Recieved and accepted packet at interface 9C:8E:33:76:42:C5
17.42.13-338	R7	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R7	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R7	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.6.16
17.42.13-338	R7	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.6.16).
17.42.13-338	R7	Ethernet Packet	Link	Sending packet from interface 9C:8E:33:76:42:C5
17.42.13-338	R6	Ethernet Packet	Link	Recieved and accepted packet at interface 72:96:57:2E:25:8F
17.42.13-338	R6	ARP_packet	Network	ProtocolStack received packet from local Interface.
17.42.13-338	R6	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17.42.13-338	R6	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.6.17).
17.42.13-338	R6	Ethernet Packet	Link	Sending packet from interface 72:96:57:2E:25:8F

17:42:13-338	R7	Ethernet Packet	Link	Received and accepted packet at interface 9C:8E:33:76:42:C5
17:42:13-338	R7	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-338	R7	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-338	R7	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.7.18
17:42:13-338	R7	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:42:13-338	R7	Ethernet Packet	Link	Sending packet from interface 3A:A9:15:22:73:56
17:42:13-338	R8	Ethernet Packet	Link	Received and accepted packet at interface 7A:83:7F:A5:2C:4B
17:42:13-338	R8	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R8	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R8	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.7.17
17:42:13-339	R8	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.7.17).
17:42:13-339	R8	Ethernet Packet	Link	Sending packet from interface 7A:83:7F:A5:2C:4B
17:42:13-339	R7	Ethernet Packet	Link	Received and accepted packet at interface 3A:A9:15:22:73:56
17:42:13-339	R7	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R7	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R7	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.7.18).
17:42:13-339	R7	Ethernet Packet	Link	Sending packet from interface 3A:A9:15:22:73:56
17:42:13-339	R8	Ethernet Packet	Link	Received and accepted packet at interface 7A:83:7F:A5:2C:4B
17:42:13-339	R8	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R8	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R8	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.8.13
17:42:13-339	R8	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:42:13-339	R8	Ethernet Packet	Link	Sending packet from interface 34:B9:13:1F:1F:C2
17:42:13-339	R3	Ethernet Packet	Link	Received and accepted packet at interface B5:7A:64:37:6D:9E
17:42:13-339	R3	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R3	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R3	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.8.18
17:42:13-339	R3	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.8.18).
17:42:13-339	R3	Ethernet Packet	Link	Sending packet from interface B5:7A:64:37:6D:9E
17:42:13-339	R8	Ethernet Packet	Link	Received and accepted packet at interface 34:B9:13:1F:1F:C2
17:42:13-339	R8	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R8	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R8	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.8.13).
17:42:13-339	R8	Ethernet Packet	Link	Sending packet from interface 34:B9:13:1F:1F:C2
17:42:13-339	R3	Ethernet Packet	Link	Received and accepted packet at interface B5:7A:64:37:6D:9E
17:42:13-339	R3	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R3	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R3	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.3.12
17:42:13-339	R3	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:42:13-339	R3	Ethernet Packet	Link	Sending packet from interface 65:6F:41:7D:24:97
17:42:13-339	R2	Ethernet Packet	Link	Received and accepted packet at interface AE:56:49:C0:AA:25
17:42:13-339	R2	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R2	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R2	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.3.13
17:42:13-339	R2	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.3.13).
17:42:13-339	R2	Ethernet Packet	Link	Sending packet from interface AE:56:49:C0:AA:25
17:42:13-339	R3	Ethernet Packet	Link	Received and accepted packet at interface 65:6F:41:7D:24:97
17:42:13-339	R3	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R3	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R3	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.3.12).
17:42:13-339	R3	Ethernet Packet	Link	Sending packet from interface 65:6F:41:7D:24:97
17:42:13-339	R2	Ethernet Packet	Link	Received and accepted packet at interface AE:56:49:C0:AA:25
17:42:13-339	R2	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R2	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R2	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.2.11
17:42:13-339	R2	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:42:13-339	R2	Ethernet Packet	Link	Sending packet from interface 5D:90:98:59:33:54
17:42:13-339	R1	Ethernet Packet	Link	Received and accepted packet at interface 1B:83:31:69:22:89
17:42:13-339	R1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R1	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.2.12
17:42:13-339	R1	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.2.12).
17:42:13-339	R1	Ethernet Packet	Link	Sending packet from interface 1B:83:31:69:22:89
17:42:13-339	R2	Ethernet Packet	Link	Received and accepted packet at interface 5D:90:98:59:33:54
17:42:13-339	R2	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R2	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	R2	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.2.11).
17:42:13-339	R2	Ethernet Packet	Link	Sending packet from interface 5D:90:98:59:33:54
17:42:13-339	R1	Ethernet Packet	Link	Received and accepted packet at interface 1B:83:31:69:22:89
17:42:13-339	R1	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R1	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R1	ARP Discovery Packet	DataLink	Created ARP discovery packet to source MAC address for IP 172.1.1.2
17:42:13-339	R1	ARP_packet	Network	Sending broadcast packet from ProtocolStack.
17:42:13-339	R1	Ethernet Packet	Link	Sending packet from interface 63:68:80:49:A2:AA
17:42:13-339	pc2	Ethernet Packet	Link	Received and accepted packet at interface 84:5A:C7:79:2D:C5
17:42:13-339	pc2	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	pc2	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	pc2	ARP Response Packet	DataLink	Created ARP Response packet to 172.1.1.11
17:42:13-339	pc2	ARP_packet	Network	Sending packet from ProtocolStack (to 172.1.1.11).
17:42:13-339	pc2	Ethernet Packet	Link	Sending packet from interface 84:5A:C7:79:2D:C5
17:42:13-339	pc1	Ethernet Packet	Link	Received and dropped packet at interface 35:C7:45:AB:21:1B
17:42:13-339	R1	Ethernet Packet	Link	Received and accepted packet at interface 63:68:80:49:A2:AA
17:42:13-339	R1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R1	ARP_packet	Network	Confirmed Packet is for this Network Layer Device.

Time	Host	Packet Type	Interface	Description
17:42:13-339	pc1	Ethernet Packet	Link	Confirmed Packet is for this Network Layer Device.
17:42:13-339	pc1	ARP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R1	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.1.2).
17:42:13-339	R1	Ethernet Packet	Link	Sending packet from interface 63:68:80:49:A2:AA
17:42:13-339	pc2	Ethernet Packet	Link	Recieved and accepted packet at interface 84:5A:C7:79:2D:C5
17:42:13-339	pc2	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	pc2	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-339	pc2	Echo Reply Packet	Network	Created Echo Reply packet to 172.1.10.3
17:42:13-339	pc2	ICMP_packet	Network	Sending packet from ProtocolStack(to 172.1.1.11).
17:42:13-339	pc2	Ethernet Packet	Link	Sending packet from interface 84:5A:C7:79:2D:C5
17:42:13-339	pc1	Ethernet Packet	Link	Recieved and dropped packet at interface 35:C7:45:AB:21:1B
17:42:13-339	R1	Ethernet Packet	Link	Recieved and accepted packet at interface 63:68:80:49:A2:AA
17:42:13-339	R1	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R1	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R1	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.2.12).
17:42:13-339	R1	Ethernet Packet	Link	Sending packet from interface 1B:83:31:69:22:89
17:42:13-339	R2	Ethernet Packet	Link	Recieved and accepted packet at interface 5D:90:98:59:33:54
17:42:13-339	R2	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R2	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R2	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.3.13).
17:42:13-339	R2	Ethernet Packet	Link	Sending packet from interface AE:56:49:C0:AA:25
17:42:13-339	R3	Ethernet Packet	Link	Recieved and accepted packet at interface 65:6F:41:7D:24:97
17:42:13-339	R3	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R3	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R3	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.8.18).
17:42:13-339	R3	Ethernet Packet	Link	Sending packet from interface B5:7A:64:37:6D:9E
17:42:13-339	R8	Ethernet Packet	Link	Recieved and accepted packet at interface 34:B9:13:1F:1F:C2
17:42:13-339	R8	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R8	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R8	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.7.17).
17:42:13-339	R8	Ethernet Packet	Link	Sending packet from interface 7A:83:7F:A5:2C:4B
17:42:13-339	R7	Ethernet Packet	Link	Recieved and accepted packet at interface 3A:A9:15:22:73:56
17:42:13-339	R7	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R7	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R7	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.6.16).
17:42:13-339	R7	Ethernet Packet	Link	Sending packet from interface 9C:8E:33:76:42:C5
17:42:13-339	R6	Ethernet Packet	Link	Recieved and accepted packet at interface 72:96:57:2E:25:8F
17:42:13-339	R6	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R6	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R6	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.5.15).
17:42:13-339	R6	Ethernet Packet	Link	Sending packet from interface 20:82:8D:25:13:5B
17:42:13-339	R5	Ethernet Packet	Link	Recieved and accepted packet at interface A9:AC:53:74:83:90
17:42:13-339	R5	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-339	R5	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-339	R5	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.4.14).
17:42:13-339	R5	Ethernet Packet	Link	Sending packet from interface 65:14:AF:61:98:69
17:42:13-339	R4	Ethernet Packet	Link	Recieved and accepted packet at interface 81:91:12:8E:5B:B4
17:42:13-340	R4	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-340	R4	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-340	R4	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.9.19).
17:42:13-340	R4	Ethernet Packet	Link	Sending packet from interface 9C:AF:67:C1:9E:87
17:42:13-340	R9	Ethernet Packet	Link	Recieved and accepted packet at interface 1E:25:38:AB:4E:75
17:42:13-340	R9	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-340	R9	ICMP_packet	Network	Packet Received: Network Layer Device is Routable forwarding packet.
17:42:13-340	R9	ICMP_packet	Network	Forwarding packet from ProtocolStack(to 172.1.10.3).
17:42:13-340	R9	Ethernet Packet	Link	Sending packet from interface AF:1C:B8:55:65:77
17:42:13-340	pc3	Ethernet Packet	Link	Recieved and accepted packet at interface 72:7C:53:98:88:A5
17:42:13-340	pc3	ICMP_packet	Network	ProtocolStack received packet from local Interface.
17:42:13-340	pc3	ICMP_packet	Network	Confirmed Packet is for this Network Layer Device.
17:42:13-340	pc3	Echo Reply Packet	Network	Echo reply packet received from 172.1.1.2
17:42:13-340	pc1	Ethernet Packet	Link	Recieved and dropped packet at interface 35:C7:45:AB:21:1B

#### Рисунки 4.1-4.6. echo-запрос с PC2 на PC3

Приведенные результаты запросов свидетельствуют, что пакет доходит до узла-получателя и возвращается обратно к узлу-отправителю, следовательно, сеть была настроена корректно.

#### Выводы.

В ходе выполнения лабораторной работы и были изучены и освоены основы статической маршрутизации на узлах сетевого уровня в IP-сетях.