Enterprise Networks

	Registration Number	Surname	Forename
Student 1	000718261-9	McCarthy	Edward
Student 2	000725945-x	Bennett	Ashley
Student 3	000724968-3	Krecisz	Milena
Student 4	000730050-6	Sime	David

Task 1
Connecting two computers

Network Address	10.10.20.0
Bit Mask (dotted Decimal)	255.0.0.0
Bit Mask (Binary)	11111111.00000000.00000000.00000000
Gateway Address	10.10.20.1
First Host Address	10.10.20.2
Last Host Address	10.10.20.254
Broadcast Address	10.10.20.255
Host A Address	10.10.20.2
Host B Address	10.10.20.3

Task 2
Router Configuration

Interface Name	Interface Slot	Interface Port
Embedded-Service-Engine	0	0
GigabitEthernet	0	0
GigabitEthernet	0	1
GigabitEthernet	0	2
Serial0	0	0
Serial0	0	1

Task 3

Network Configuration

	Network 1 = 192.168.0.0	Network 2 = 172.16.0.0	Network 3 = 11.0.0.0
Network Address	192.168.0.0	172.16.0.0	11.0.0.0
Bit Mask (Doted Decimal)	255.255.255.0	255.255.0.0	255.0.0.0
Router1 Interface Address g0/0	192.168.0.1	-	-
Router1 Interface Address g0/1	-	172.16.0.2	-
Router2 Interface Address g0/0	-	-	11.0.0.1
Router2 Interface Address g0/1	-	172.16.0.1	-
First Host Address	192.168.0.2	172.16.0.3	11.0.0.2
Last Host Address	192.168.0.254	172.16.255.254	11.255.255.254
Broadcast Address	192.168.0.255	172.16.255.255	11.255.255.255

Router Configuration

	R1	R2
Device Name	Router1	Router2
Console access password	class	class
Privileged exec password	cisco	cisco
Routing Protocol	RIP	RIP

Connectivity

From	To	IP Address	Ping Results
Host A	**Router1 Interface Address gi0/0**	192.168.0.1	Average = 0ms Maximum = 0ms
Host A	**Router2 Interface Address gi0/1**	172.16.0.1	Average = 0ms Maximum = 0ms
Host A	**Host B**	11.0.0.2	Average = 0ms Maximum = 1ms
Host B	**Router2 Interface Address gi0/0**	11.0.0.1	Average = 0ms Maximum = 0ms
Host B	**Router1 Interface Address gi0/1**	172.16.0.2	Average = 0ms Maximum = 0ms
Host B	**Host A**	192.168.0.2	Average = 0ms Maximum = 1ms

Test

Subnet	Number of Hosts
1	45
2	9
3	5
4	2

Student ID Used

000725945 Ashley Bennett

	Subnet1	Subnet2	Subnet3	Subnet4
Number of Hosts	45	9	5	2
Network Address	192.168.50.64	192.168.50.16	192.168.50.8	192.168.50.252
Router Interface Address	192.168.50.65	192.168.50.17	192.168.50.9	192.168.50.253
First Host Address	192.168.50.66	192.168.50.18	192.168.50.10	192.168.50.254
Last Host Address	192.168.50.126	192.168.50.30	192.168.50.14	192.168.50.254
Broadcast Address	192.168.50.127	192.168.50.31	192.168.50.15	192.168.50.255
Bit Mask (Binary)	11111111.11111111.11111111.11000000	11111111.11111111.11111111.11110000	11111111.11111111.11111111.11111000	11111111.11111111.11111111.11111100
Bit Mask (Doted Decimal)	255.255.255.192	255.255.255.240	255.255.255.248	255.255.255.252

From	To	IP Address	Ping Results
Host A	**Gateway**	192.168.50.17	Min = 0 Max = 0 Average = 0
Host A	**Host B**	192.168.60.66	Min = 0 Max = 1 Average = 0
Host A	**Host C**	192.168.60.67	Min = 0 Max = 0 Average = 0
Host B	**Gateway**	192.168.60.65	Min = 0 Max = 0 Average = 0
Host B	**Host A**	192.168.50.18	Min = 0 Max = 0 Average = 0
Host B	**Host C**	192.168.50.67	Min = 0 Max = 0 Average = 0
Host C	**Gateway**	192.168.60.65	Min = 0 Max = 0 Average = 0

From	To	IP Address	Ping Results
Host C	**Host A**	192.168.50.18	Min = 0 Max = 0 Average = 0
Host C	**Host B**	192.168.60.66	Min = 0 Max = 0 Average = 0

Fault	Solution
Misplaced cable (physical)	Inspect the wiring and correct the connections
Changed IP Address (Logical)	Check all the IP Addresses and compare with what they should be

Reflection

This weeks' lab we have found quite challenging. Although we managed to complete the lab successfully we did experience several problems. For example we have experienced a few difficulties while creating our cables and understanding the orientation of the wires. The reason for this was that the diagrams and instructions provided were not entirely correct. However with a little team work and help from the technicians we found out how to construct the correct cables and how to use pins properly. Another difficulty we met was working out the subnets for particular IP addresses. Although we had background knowledge about how the subnets work and how to use them we did not know how to construct our own one. We solved this problem by asking a member of staff to help us, who taught us how to calculate a new specific subnet.

Our commitment and motivation towards this lab was significant as we wanted to find solutions to areas of the lab we found challenging. In fact we worked on the lab work outside the lab session which helped us understand the lab more clearly and manage time more easily during the lab session. We also decided to work on the lab in our spare because of past experience. In other words, in previous labs we happened to run out of time to fully understand our tasks although we completed them successfully.

We think that this has contributed greatly to our understanding of computer science as we have learnt a lot trough the exercises. For example we learnt how set up and configure a router so it receives and distributes network connection between more than one gateway or several machines.