

Question 1:

Blood types are important for blood transfusion. The blood types must be matched since if not matched properly, the recipient's blood can form clots and these can lead to heart attacks embolisms and strokes.

A patient arrives in the ER in urgent need of a blood transfusion. The ER receptionist uses your console application to enter the patient's blood type. Based on the built-in compatibility chart, the system instantly displays a list of all compatible donor blood types. The receptionist shares this information with the patient's relatives, helping them quickly arrange a suitable blood donor and ensuring a safe, timely transfusion.

The following table summarize blood groups compatibility:

Recipient	Donor							
	O-	O+	A-	A+	B-	B+	AB-	AB+
O-	x							
O+	x	x						
A-	x		x					
A+	x	x	x	x				
B-	x				x			
B+	x	x			x			
AB-	x		x		x		x	
AB+	x	x	x	x	x	x	x	x

Apply your concepts of simple and multidimensional array to derive a solution for the ER reception