**Assignment – 1**

**Problem A solutions**:

1. Due to forward propagation, Ken activates Ken’ hidden person node. Then due to backward propagation, Ken’ node activates it’s other property nodes – Burglar, Single, HS, Sharks & in 20’s. Now, since Nick’ and Neal’ share the same property nodes – Single, HS & Sharks with Ken’, due to forward propagation from these three property nodes, Nick’ and Neal’ nodes get activated.
2. As mentioned in the previous problem, we know that the hidden nodes - Nick’ and Neal’ get activated a little bit. Now, those nodes in turn due to backward propagation re-activates the shared property nodes – Single, HS & Sharks a bit more than it was earlier.
3. When the property nodes – Sharks and in 20’s are activated, due to forward propagation, Ken’ node gets activated the highest. Now, as seen before, Neal’ and Nick’ share three property nodes – Sharks, H.S. and Single with Ken’. Similarly, Pete’ and Fred’ nodes also share three property nodes – in 20’s, H.S. and Single with Ken’. Unlike earlier, these two nodes are also activated here additionally because the shared property node – in20’s is also one of the source activation nodes. So, that creates more activity in forward propagation for Pete’ and Fred’ than earlier. Now, these four nodes – Neal’, Nick’, Pete’ and Fred’ nodes in turn activate a bit of the other occupation nodes – Bookie and Pusher.
4. Typically, Jets are in 20’s, Single and have gone to J.H. for schooling. No specific occupation though.