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|  | Name: Md Habibur Rony  Student ID: 984582  Weekday: Week 4- Day 16 |  |

Answer to the Q. No. R-13.1:

No, he has not proved p=NP. So, to prove P=NP, he has to show one of the followings

* L is an NPC problem or M is reducible to L
* L is an NPH problem.

If he is able to prove any of the above and all NP problems can be reduced to L which can be solved in polynomial time then he will be able to prove P=NP.

Answer to the Q. No. R-13.3:

Algorithm SAT2SubSetSum (S)

R<- new Empty List

R.Insert(5)

if CheckBoolGate(S)= true then

return (R, 5, 5)

else

retun (R, 2, 2)

We have reduced SAT to SubSetSum problems and it runs in polynomial time. SubSetSum runs in polynomial time and it is in NPH and NP. So, SAT ∈ NPC

Answer to the Q. No. R-13.13:

CheckSubSetSum1(NumberSet, MinT, MaxT)

Algorithm CheckSubSetSum(NumberSet, Target)

return (NumberSet, Target, Target)

{/\*47+23+22+8=100; 59+40+14+17 =130\*/}