**Lab W1D1**

**Q. 2**

**Prove F(n) > (4/3)^n for n > 4**

**For n = 5**

**f(5) > (4/3) ^5 🡪 5 > 4.25 ----------- 🡪 True;**

**For n =6**

**f(6) > (4/3) ^6 🡪 6 > 5.61 ----------- 🡪 True;**

**n = k f(k) > (4/3)^k --------- > True : our hypothesis**

**n = k +1 f (k + 1) > ( 4/3)^k+1**

**LHS 🡪 f (k + 1) = f(k) + f(k – 1)**

**LHS = (4/3)^ k + (4/3)^k-1**

**RHS = (4/3)k+1 then**

**(4/3)^k + (4/3)^ k-1 > (4/3)^k+1**