**Math Basis Recursion**

Introduction

**First principle = Weak Induction**

Set of Math Expressions{P(1),P(2),P<3)…….P(N)}

1. Basis -> P(1), true
2. P(n-1) -> P(N)

P(1) -> 21  <\_ (1+1)! = 2!

P(2) -> 22 (2+1) =!3 = 6

**Strong Induction**

1. Same = Basis-> P(1), true
2. All p(2)….p(N)

Fundamental Theorem of Arithmetic

Num = p2n1 p2n2 p3n3 <- Prime numbers N1 power

2=21

3=31

4=22

5=51

6=21\*31

**Ex 1:­ Greatest common denominator**

N1=11\*3 N2=11\*7

=33 =187

187-33 = 154 – 33 =121 -33 = 88 -33 =55 -33 = 22 🡪 33-22= 11 **GCD = 11**

OR

187 % 33 = 22 🡪 22%11 = 0 🡪 **GCD = 11**