COURSECODE Cheatsheet

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1 Week 1

$$\pi \equiv \sum_{i=2}^{n} \frac{2}{i^2-1} \quad \pi \text{ is a constant and proof of the other in i}$$

$<< log(log^*(n)) \quad log^*(n) \approx \Theta(1) << \text{ any other function of n}$

$<< log^*(\frac{n}{2}) \quad \text{Proof in ii)}$

$\equiv log^*(2^n) \quad \text{proof in iii}$

$<< 2^{log^*(n)} \quad \text{if } n > 1, 2^n >> n \implies log^*(n) << 2^{log^*(n)}$

$<< log^{(9001)}(n) \quad \text{proof in iv}$

$<< n^{\frac{log(log(n))}{log(n)}} \quad \text{proof in v}$

$<< log(n)^{log^*(n)} \quad 1 << log^*(n) \implies log(n) << log(n)^{log^*(n)}$

$<< n(log(log(n)) \quad \text{proof in vi}$

$<< log(n!) \quad \text{proof in vii}$

$<< n\sqrt{\frac{n}{2}} \quad = \frac{n^{\frac{3}{2}}}{\sqrt{2}} >> nlog(n)$

$<< n^{4.5} - (n-1)^{4.5} \quad \text{proof in viii}$

$<< n^{1337} \quad n^{3.5} << n^{1337}$

$<< n^{log(log(n))} \quad 1337 << log(log(n)) \implies n^{1337} << n^{log(log(n))}$

$\equiv log(n)^{log(n)} \quad \text{proof in ix}$

$<< (1 + \frac{1}{787898})^{787898n} \quad \text{proof in x}$

$<< e^{2n} \quad e^n < e^{2n}$

$<< n! \quad \text{proof in xi}$

$<< n^n \quad \text{proof in xii}$

2 Week 2

3 Week 3

4 Week 4

5 Week 5

6 Week 6

7 Week 7

8 Week 8

9 Week 9

10 Week 10

11 Week 11

12 Week 12

13 Week 13

Process:
1.
2.
3.
4.

Example: Hanhee Lee

Definition:

Theorem: Hanhee Lee

Derivation: Hanhee Lee

Intuition: Hanhee Lee

Warning: Hanhee Lee

Terminology: Hanhee Lee