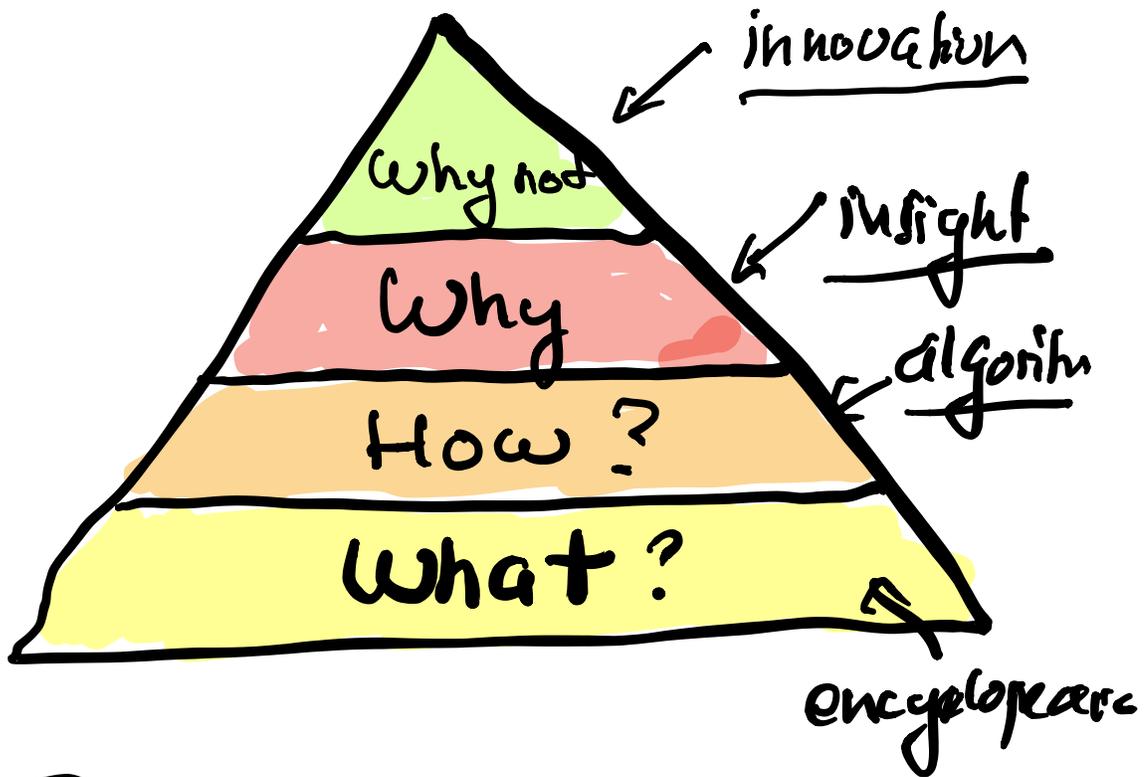


# Unit 32 AI and Calc

## ① About Learning

How does one teach a machine calculus.

### Bloom Taxonomy



Piaget, Minsky, Thuring

②

How do we  
build functions

Give me a random  
function

Building blocks:

1

$\sqrt{x}$

$x^n$

exp

Log

Sin

cos

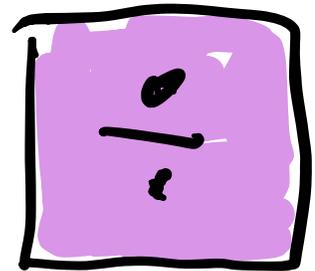
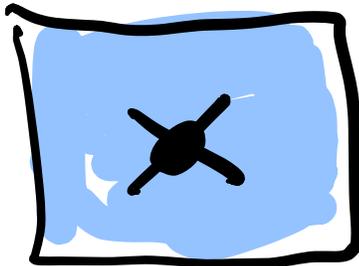
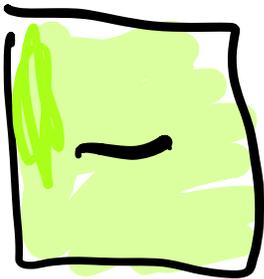
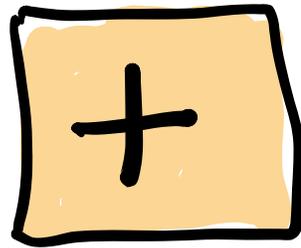
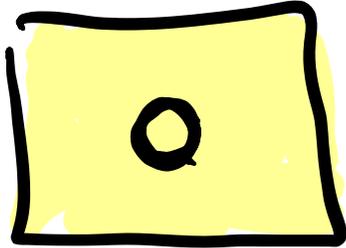
tan

Atoms

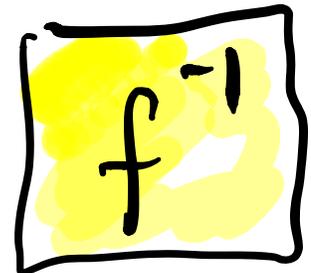
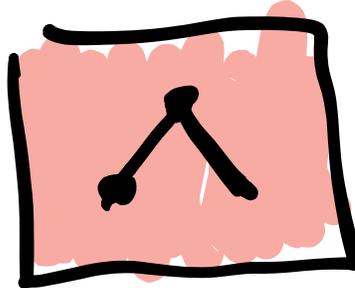
$1/x$

$x$

Build more complex function



$\sin x$   $\cos x$



level 1

$\log(x), x^2$

level 2

$\sin(x^2)$

$\cos x + x^4$

level 3

$$\sin(x^2 + \cos x)$$

$$\log(\sin^3(x))$$

level 4

$$e^{\sin(x^5) + x^2}$$