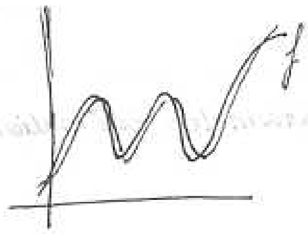
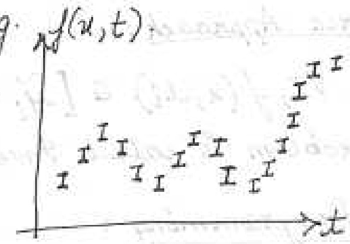
Constraint Prog.

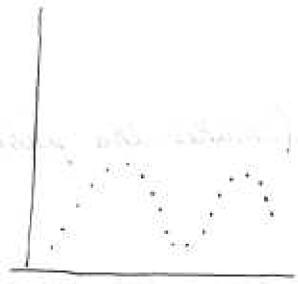


$f(x,t) = y$.

Linearization:



Using Intervals:

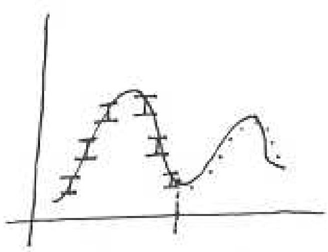


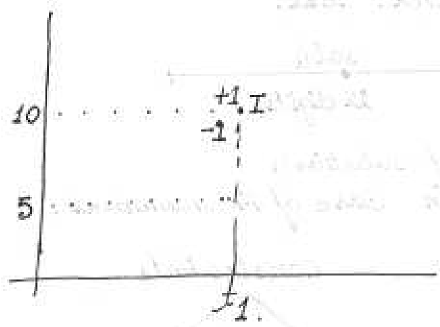
Observation → minimize it.

$$\min_{x} \sum_{i=0}^{N} (f(x, t_i) - \tilde{y})^2 = S.$$

↓

values of x such that S is minimum.

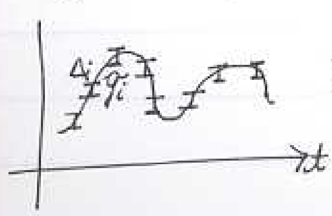




Scheduling/ Planning - CP in cases where uncertainity does not exist.

In cases where the problem can be solved in mathematical way is theoritica[l]
not complete, but where it can be solved in simplistic way is practical &
complete & in most cases implemented.

Our function goes ~~att~~ through all the bounds.



$f(x,t)=y \rightarrow \forall i; f(x, t_i) \in [\tilde{y}_i - \Delta i, \tilde{y}_i + \Delta i]$

Method to Solve: 1) complete
2) reliable

1) Using Brute Force Approach:

2) constraint $= \forall i, f(x, t_i) \in [\tilde{y}_i - \Delta_i, \tilde{y}_i + \Delta_i]$

This Kind of problem is called Inverse problem / Parameter Estimation problem.

Constraint Programming:

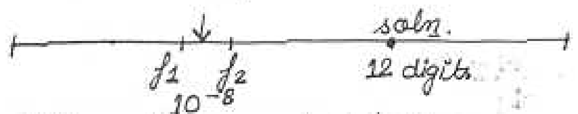
my program:

modeling stage:
- variables
- domains for the variables. (makes the problem discrete/variable)
- constraints.

$\downarrow$

solutions.

$\rightarrow$ realpaver. Test.



CP $\rightarrow$ continuum of solutions

Forwarding helps in case of FP numbers.

constraints

discrete: CSP (constraint ~~subexpression~~ statisfaction problem). (SAT). $\rightarrow$ you can enumerate

continuous: (constraint solving). $\rightarrow$ you cannot. $\rightarrow$ intervals

Bisection