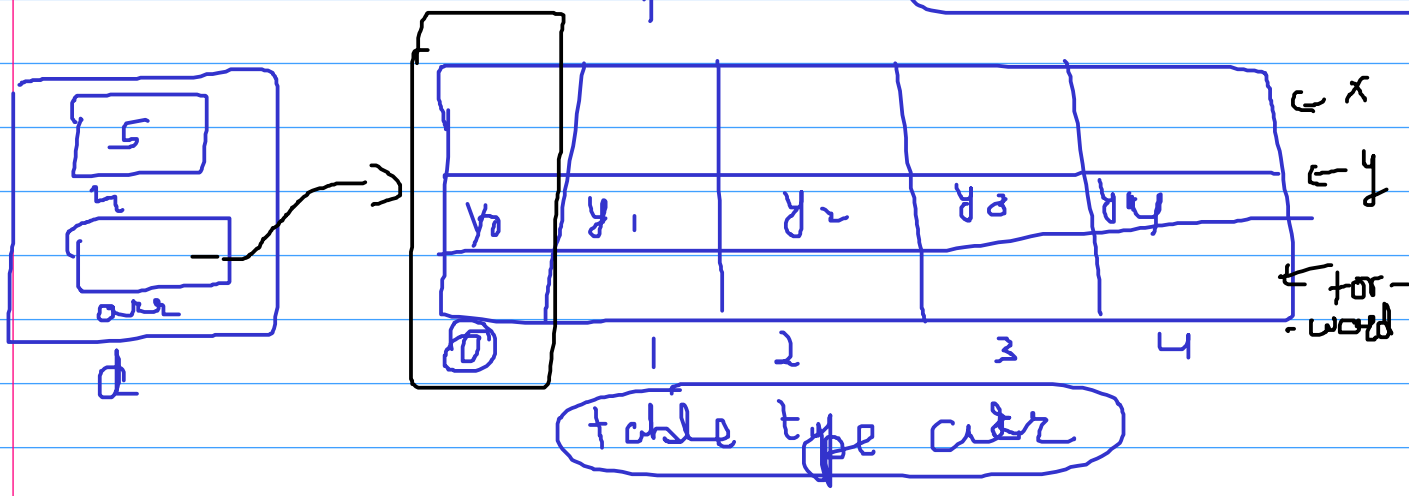
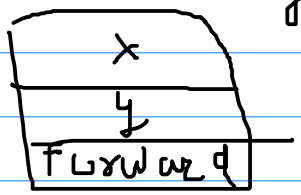
(1) n ← input → (5)

(2) Create arr of data model → (4)



arr → Points to first object

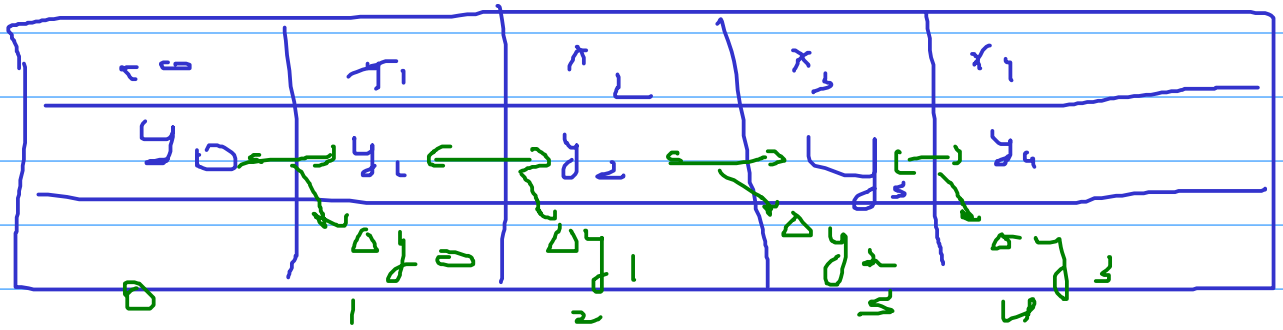


(3) Take (x) & (y)

(4) At what (x) (y) is needed

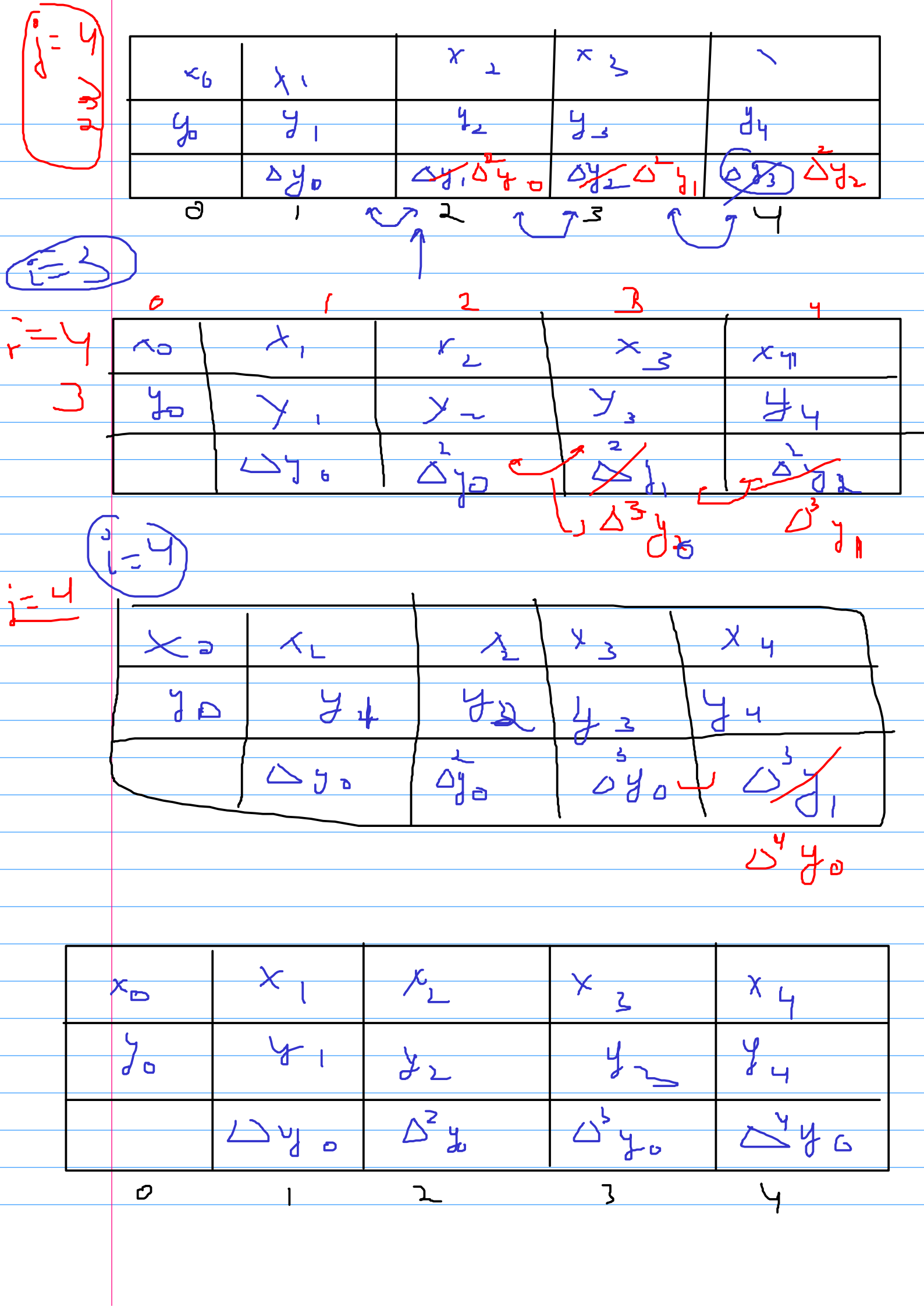
(5) Calculate forward

(1) loop



2 loop → Nested loop

(1) i = 0


i = 4
3
2
x0 x1 x2 x3 x4
y0 y1 y2 y3 y4
Δy0 Δ²y0 Δ²y1 Δ³y0 Δ²y2 Δ³y1 Δ⁴y0
0 1 2 3 4
i=3
0 1 2 3 4
x0 x1 x2 x3 x4
y0 y1 y2 y3 y4
Δy0 Δ²y0 Δ²y1 Δ³y0 Δ²y2 Δ³y1 Δ⁴y0
i=4
i=4
x0 x1 x2 x3 x4
y0 y1 y2 y3 y4
Δy0 Δ²y0 Δ³y0 Δ³y1 Δ⁴y0
x0 x1 x2 x3 x4
y0 y1 y2 y3 y4
Δy0 Δ²y0 Δ³y0 Δ⁴y0
0 1 2 3 4

$$f(x) = y_0 + \frac{u}{1}\Delta y_0 + \frac{u(u-1)}{2!}\Delta^2 y_0 + \frac{u(u-1)(u-2)}{3!}\Delta^3 y_0 + \frac{u(u-1)(u-2)(u-3)}{4!}\Delta^4 y_0$$

$$u = \frac{x - x_0}{h} \longrightarrow x_1 - x_0$$

calculate (4)

↓

cal(3)

↓

cal(2)

↓

val = c(1) +

↓

~~c(0)~~ + u

y_0

val

n0 = 1

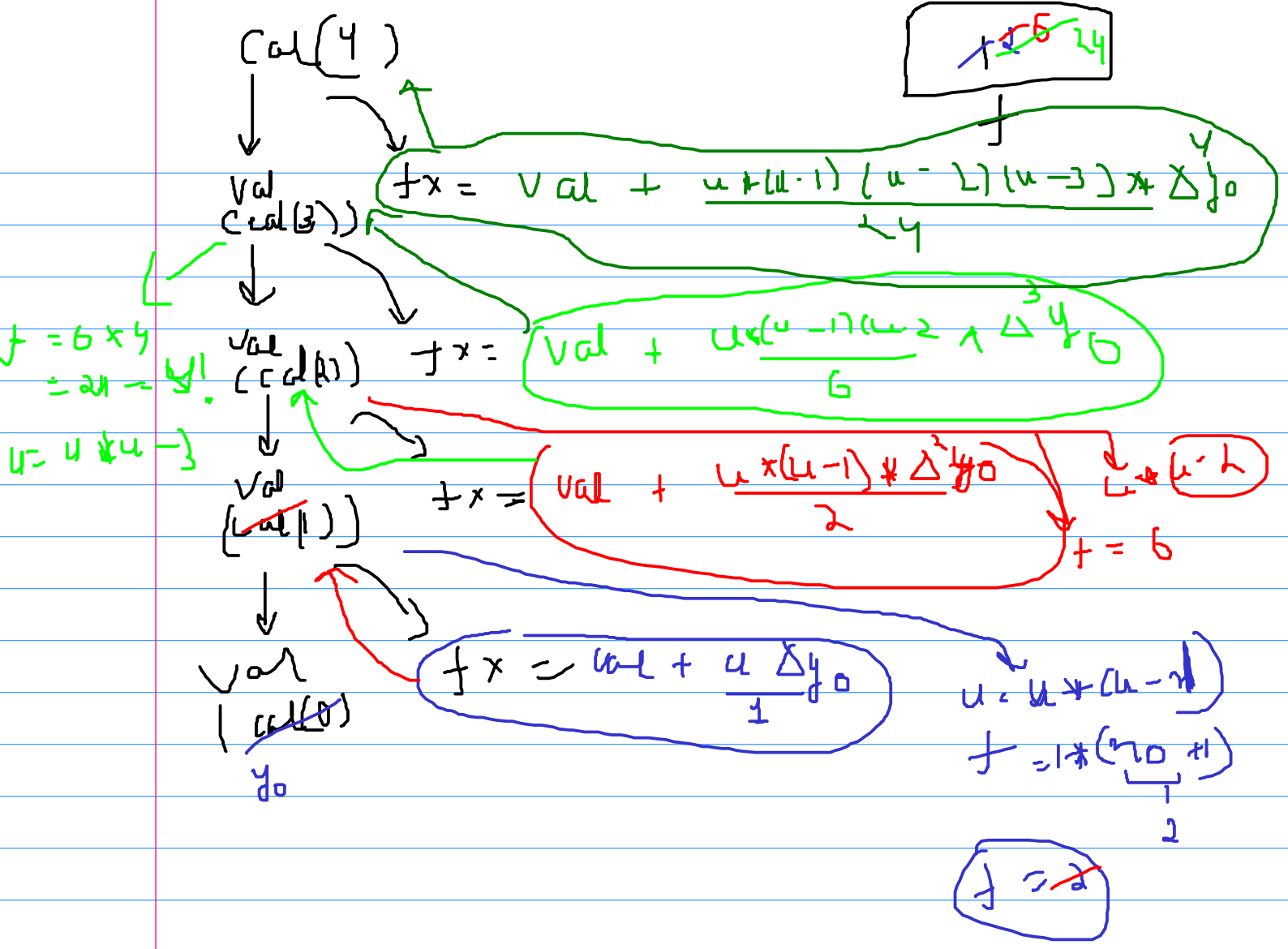
u[4-1]

fx = val + uv

val = y_0

$$fx = y_0 + u\,\Delta y_0$$

fy1



0	2	4	6	8
4	26	58	112	466
	22	10	12	266
	0	1	2	3	4

cal(4)

val = cal(3)

val = cal(2) → 77.75

val = cal(1) → 59

val = cal(0) → 4

$fx = 4$

$fx = val + \frac{(2.5)*22}{1} = 59$

$fx = 59 + \frac{3.75 * 16}{2} = 77.75$

$fx = 77.75 + \frac{1.875 * 12}{6} =$

f: x*6

u: 2.5*(1.5)

= 3.75 * (0.5) = 1.875