struct s_t

$\{$

    4   int i;   ← 32 bit

+ 4 float f; $\}$

    $\}$

s_t s;

int x float

$2^{32} \times 2^{32}$ 2^{64}

```
union u_t
{   int i;
4
4   float f;
    }
```

```
u_t u;
```

int U float
  =

```
int i1 = 5
float f = i1;
```

u.i = 5

u.i

u.f   v = u.f

std::variant

```
union u_t

{
    u ──> int i;

    u ──> float f;

         ──> double d;
    ──> 8
         ──> char c;

}
```
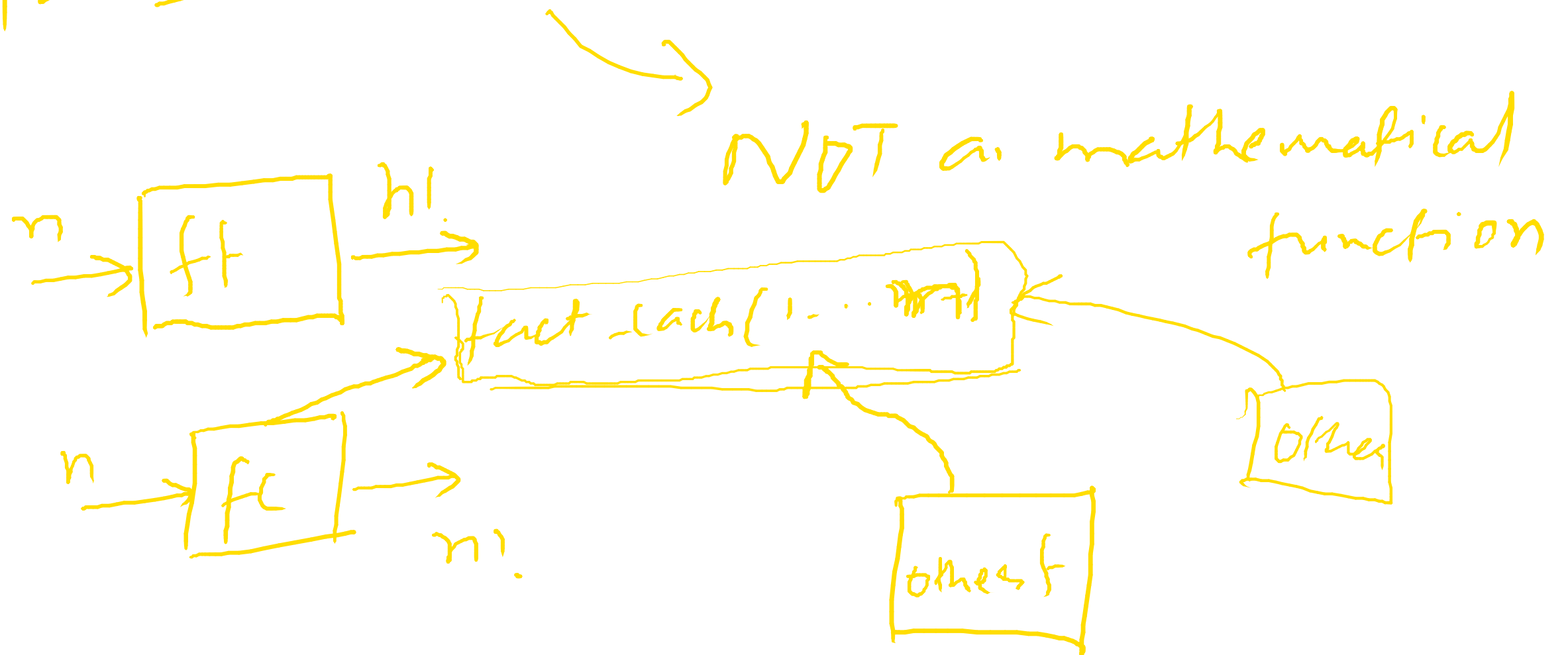
```
union u_t
{ int i;

  int j;

}
```

height   cm
          int
          mm
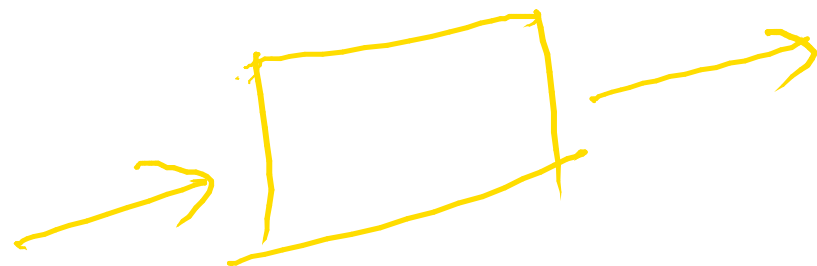
unsigned cm
          in
          mm

$$fact\_functional(n) \equiv n!$$

$fact\_with\_cache(n)$ $\qquad$ $n!$

NOT a mathematical function

$n \rightarrow \boxed{ff} \rightarrow n!$

$n \rightarrow \boxed{fc} \rightarrow$ $\quad n!$

fact_cach(1...n!)

othersf

Other
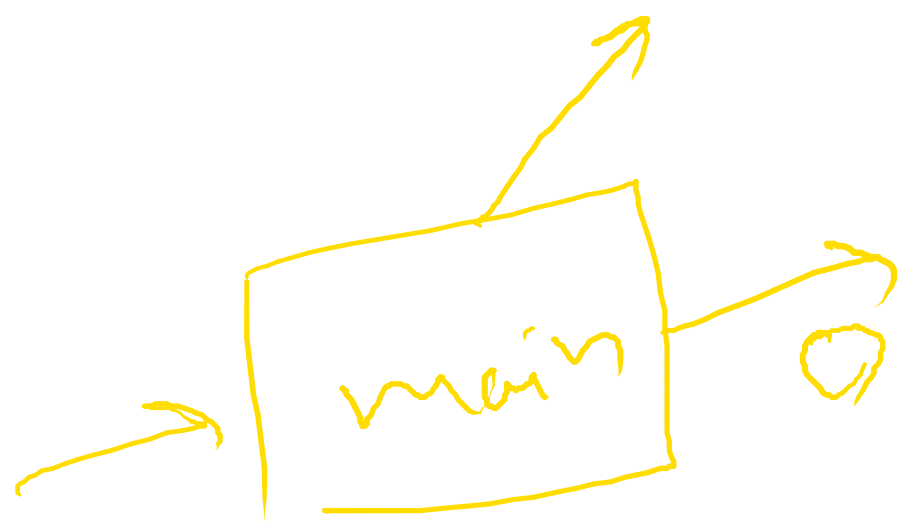
main

printf

print

stdout
stdin

main

subroutine

f o g

(function are not
mathematical
functions