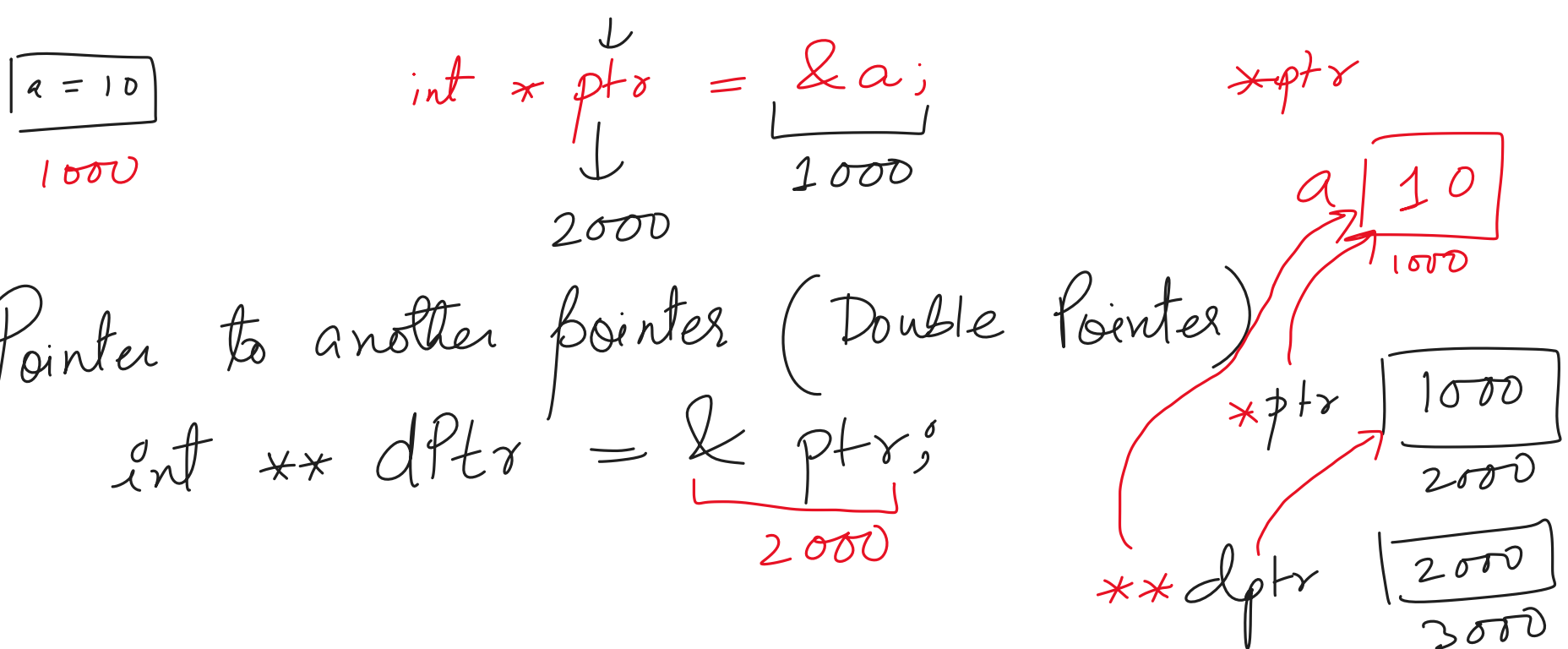


Arrays → Pointers → The variable which stores the address of another variable is a pointer.

Var : A container / memory location where we store some data.  
 address operator  $\&a$   $\text{int } a = 10;$  memory block  $1000 \times$   
 $[(\&a)]$

Address → Hexa Addr → %p  
 Base Addr → %x

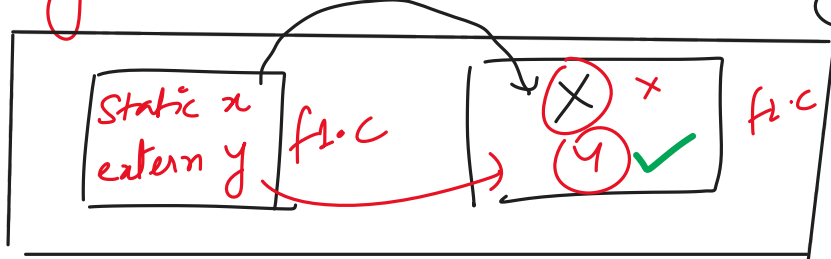
$\text{int } * \text{ptr} = \&a; (1000)$



function {  
 $x = 20$  2000  
 }  
 main {  
 $\text{ptr} = 2000$      $*\text{ptr} = 20$   
 }

Storage Classes : (Dangling Pointer)

\* Static → global — file  
 \* extern → global — folder  
 \* auto → local {  
 \* register → RAM memory {  
 no pointers  
 Reva-DS  
 it is called a dangling situation.



\* Arrays → It is a homogeneous collection of data.  
 $\text{int arr}[] = \{ 1, 9, 8, 6, 5, 4 \};$   
 0 1 2 3 4 5 → index  
 1 2 3 4 5 6 → position  
 (values)

$\text{data} = [1.2, 1, \text{True}, "Hi"];$  Python (Heterogeneous)

1D, 2D (index = pos - 1) (pos = index + 1)  
 ↓  
 Matrix

$\text{int arr}[10] = \{1, 2\};$  (8 zeroes) \*\*  $8 \times 4 = 32$  bytes

(Runtime / Execution) (DMA) → Runtime

\*  $(\text{malloc})(\text{size})$   
 \*  $(\text{calloc})(n, \text{size})$   
 \*  $\text{realloc}(\text{ptr}, \text{new size})$   
 \*  $\text{free}(\text{ptr})$   
 C++ (new delete) (DMA)  
 C++ (cstdlib)  
 32 bytes  
 garbage  
 pointers  
 default  
 (int \*) (char \*)  
 <stdlib.h>  
 void pointer

\* malloc  
 \* calloc  
 \* realloc  
 \* free  
 \* Struct & union  
 \* strings

\* Recursion - Interview Questions