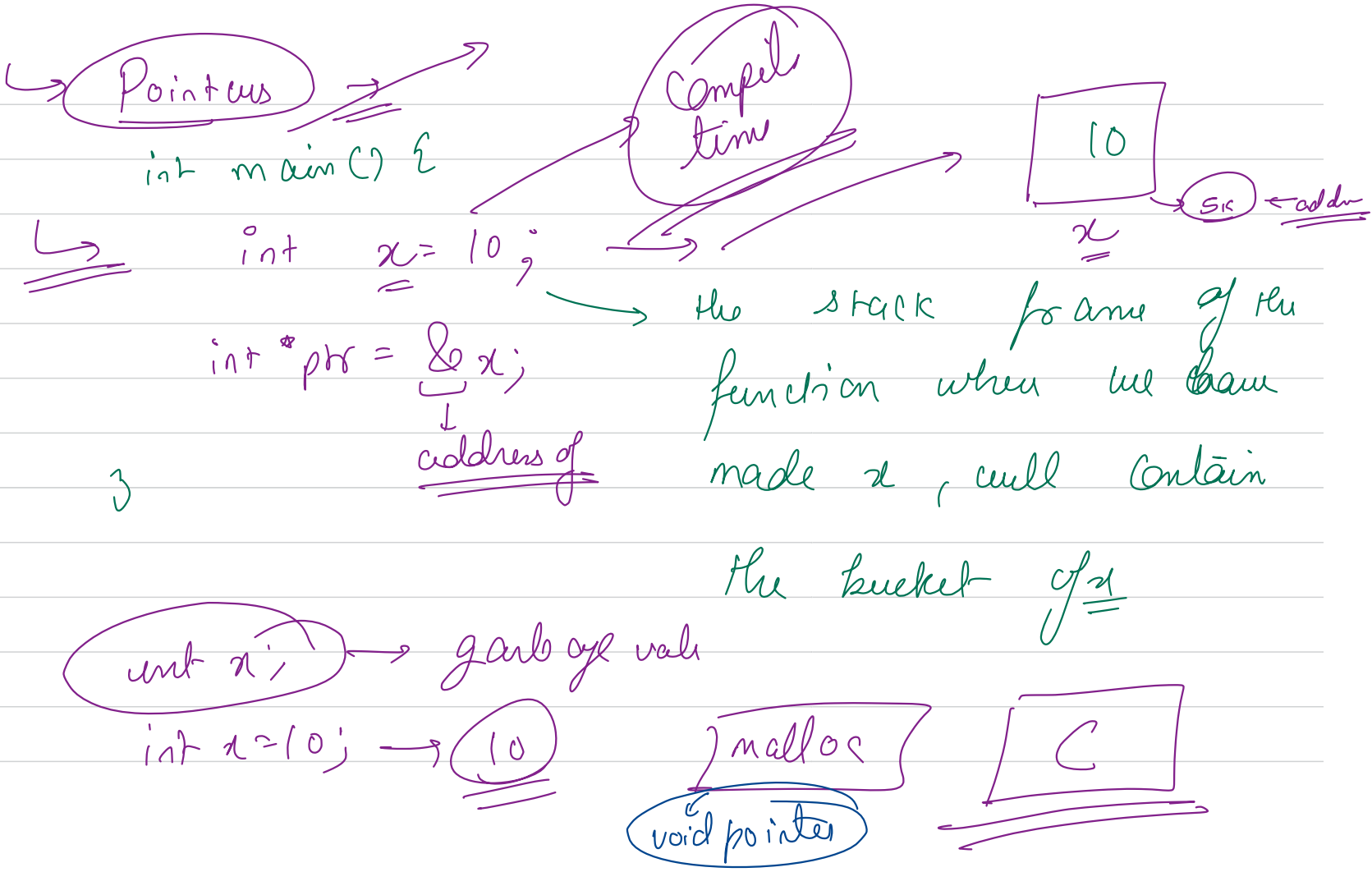
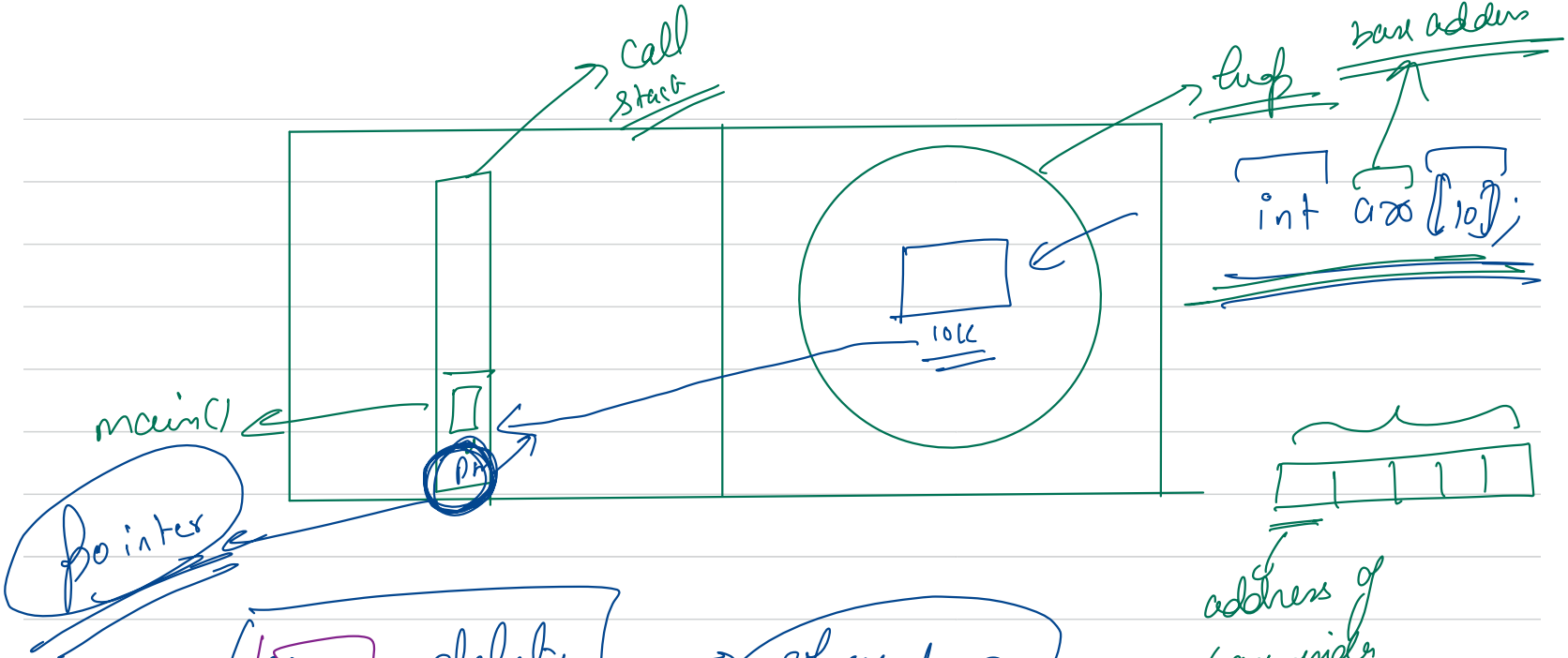
Memory Management

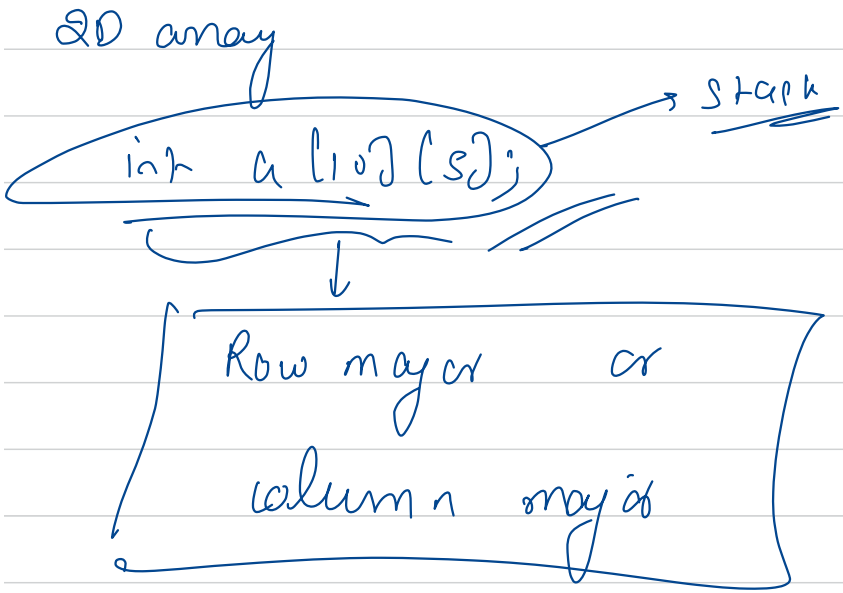
1. Pointers
   - → function pointers
   - → new & delete (DMA)
   - → Smart pointers
   - → lambda's in C++
   - → vectors

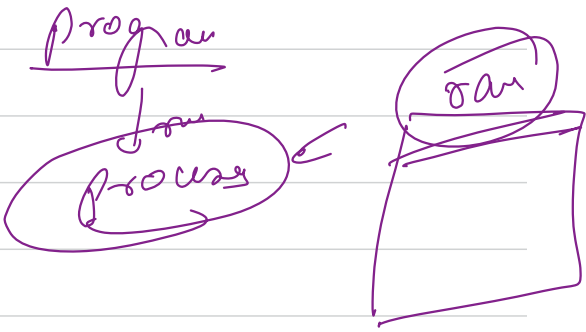

Pointers
int main() {
int x = 10;
int *ptr = &x;
}
Compile time
10
SK
addr
x
the stack frame of the function where we have made x, will contain the bucket of x
int x;
garbage value
int x=10;
10
malloc
void pointer
C

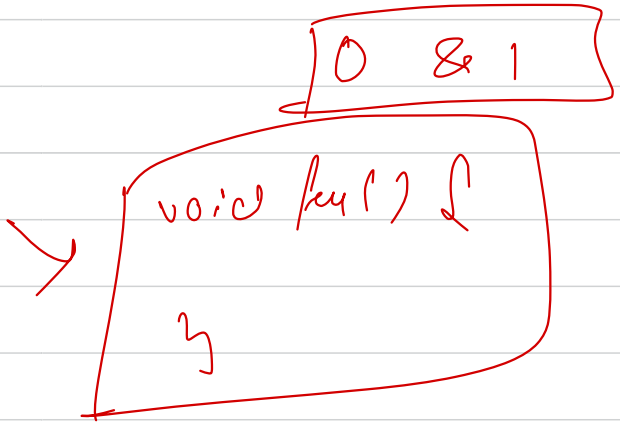


new delete → operators

use → it creates a bucket in the heap and returns the address of the bucket.

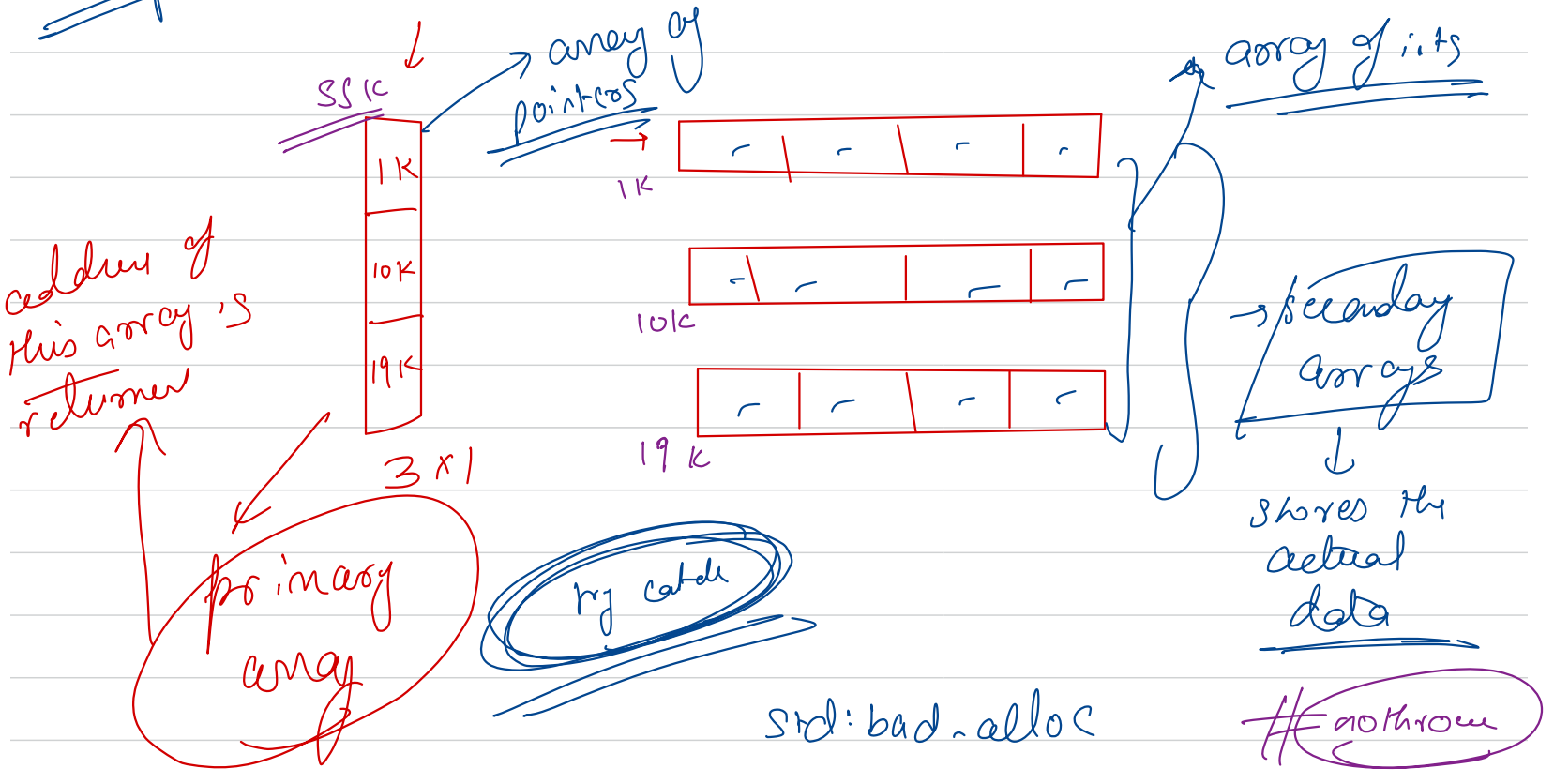
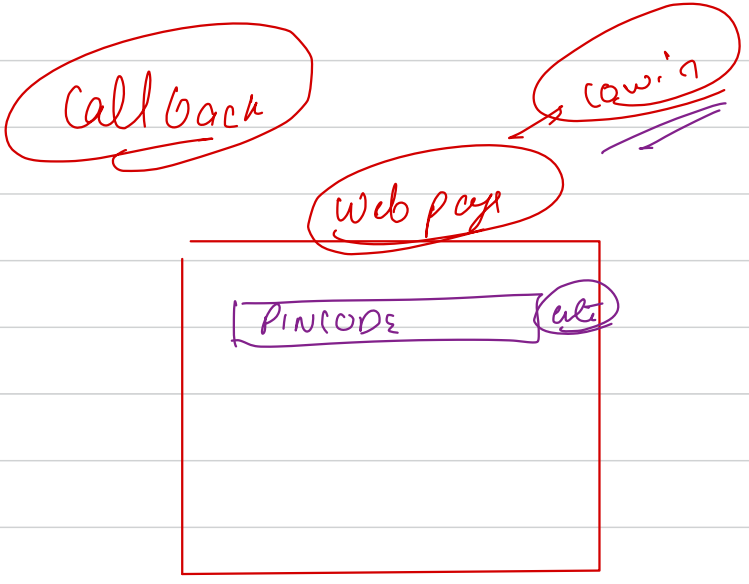

2D array
int a[10][5];
stack
Row major or
column major


Program
ram
process
ram


0 & 1
void fun() {
}

heap

2D array → (3 x 4)



Function pointers