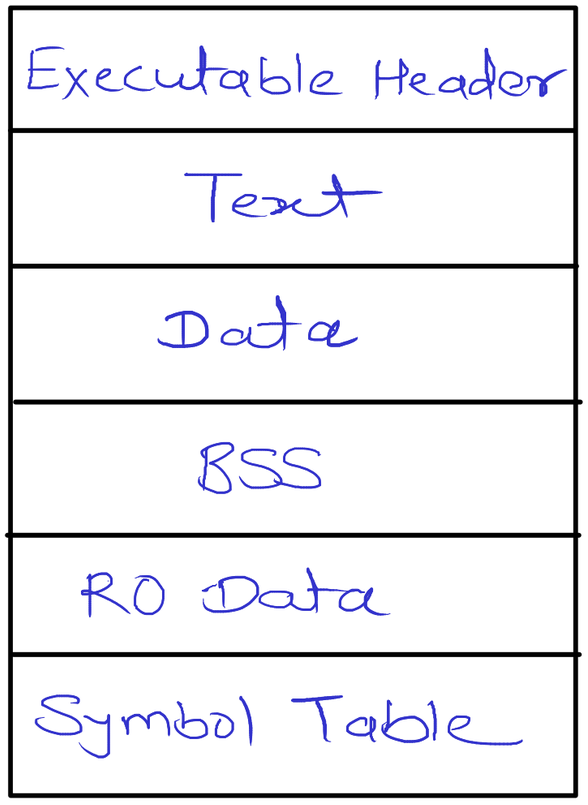
Program - Sections

.out / .exe



Executable file
(Binary)
(Sectioned binary)

Executable Header
- info about executable file(size, type)
  type - CLI / GUI / Library
- info about remaining sections of exe
  (section name, start, end, size)
- addr of entry point function.
- Magic number (first 2 or 4 bytes)
  - identity to file format.

Windows - Portable Executable (MZ)
Linux - Executable Linking Format (ELF)

Text
- contains machine code of your program

Data
- all static & global variables (initialised)

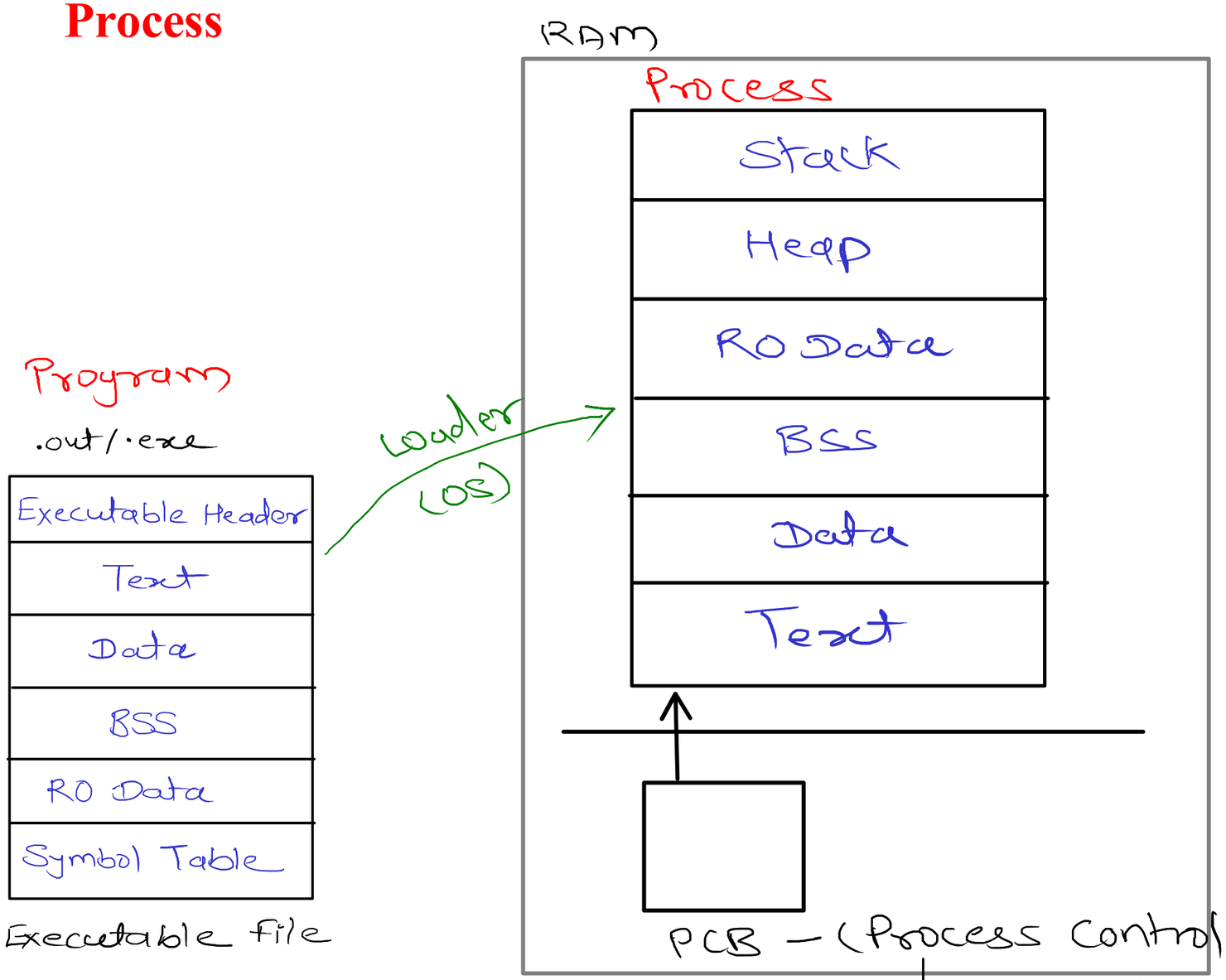
BSS (Block Started by Symbol)
- all static & global variables (uninitialised)

RO Data
- read only variables (string constants)

Symbol Table
- contains info about symbols

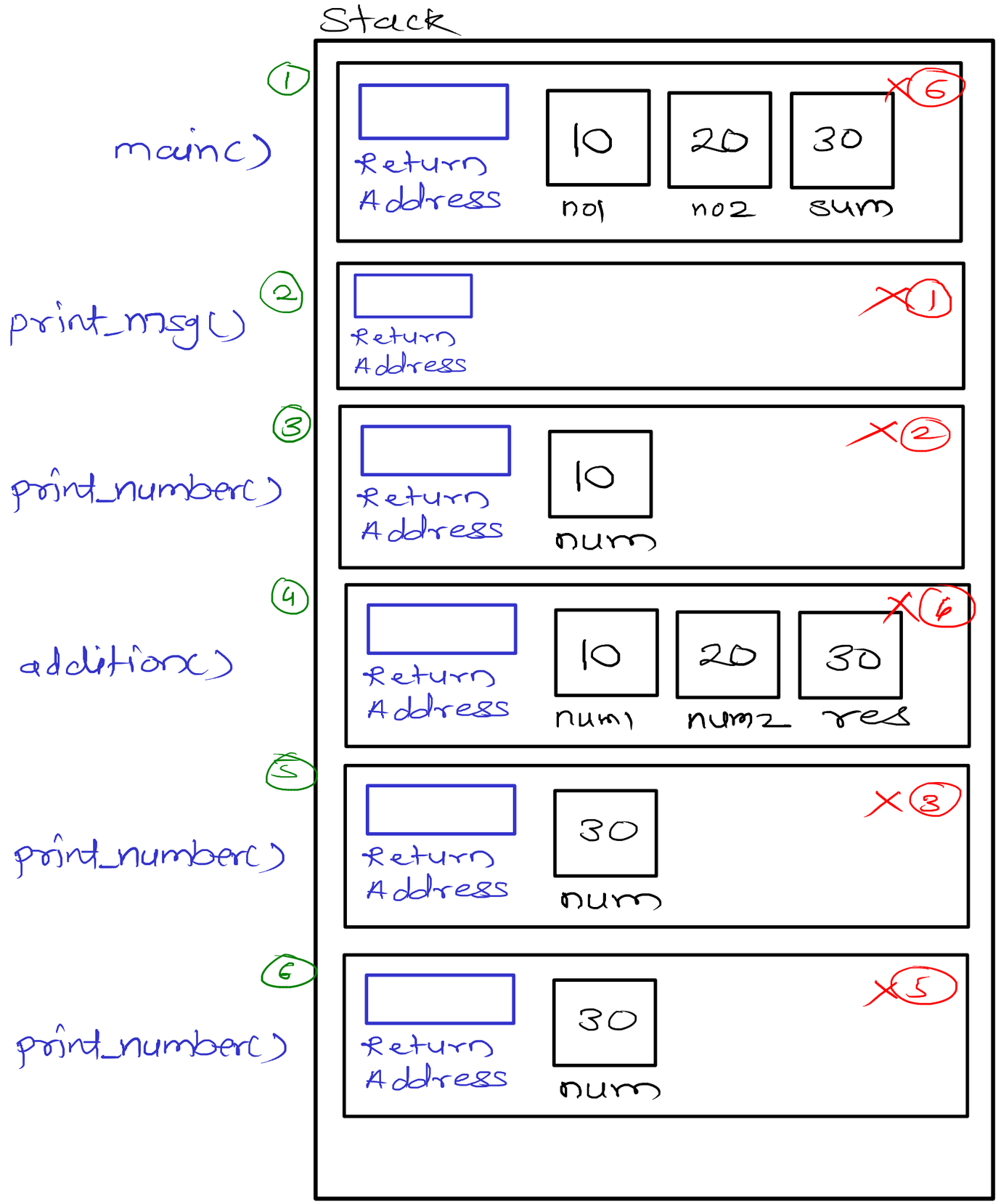
Symbols
- variables - (name, size, default value, addr, sc
- functions - (name, ret type, no/type of arg, addr)

Process



Stack
- Function Activation Record
  - formal arg
  - local variable
  - return address

Heap
- dynamically Allocated space



Function Calling Sequence

```
int main(void){
        int no1 = 10, no2 = 20, sum;
        print_msg();
        print_number(no1);
        sum = addition(no1, no2);
        print_number(sum);
        return 0;
}
void print_msg(void){
        printf("This is my first function\n");
}
void print_number(int num){
        printf("number = %d\n", num);
}
int addition(int num1, int num2){
        int res = num1 + num2;
        print_number(res);
        return res;
}
```