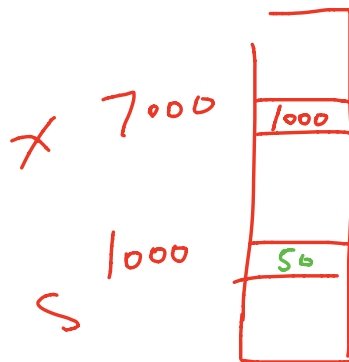


pointer : variable which stores address  
↓  
the content is address

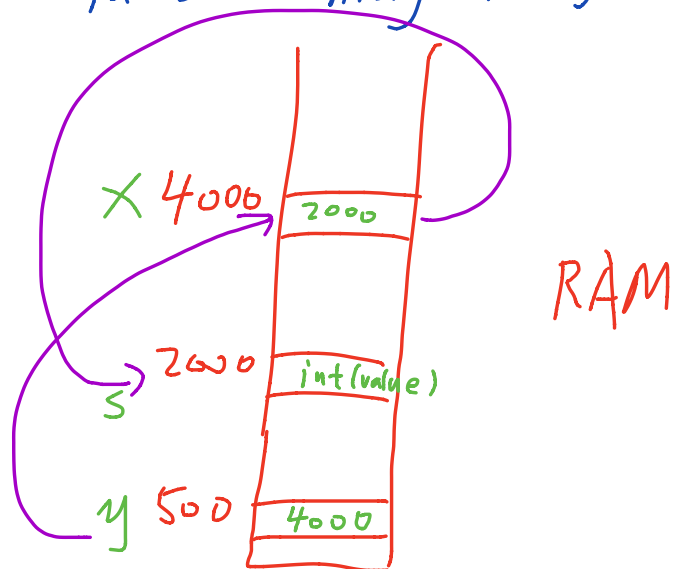


int \*x,  
x = 1000  
\*x → 50

main() {

int s;  
int \*x;  
int \*\*y;

variable is just address  
in a running program



Indirection

```
int x;
int x;

int **z;

x = 5;
printf("%d\n", x);
printf("%p\n", &x);

y = &x;
printf("%d\n", *y);
printf("%p\n", y);

z = &y;
printf("%d\n", **z);
printf("%p\n", z);

}

~
~
~
"main.c" 24L, 302C written
pod1-1 25 % gcc main.c
pod1-1 26 % a.out
5
0x7fff12dbd9f4
5
0x7fff12dbd9f4
5
0x7fff12dbd9f8
pod1-1 27 %
```

```
// C++ is a superset of C with OO (object oriented) extensions.
// However, there are subtle differences that must be taken into account
// when porting C code.

#include <stdio.h>

int main()
{
    int x;
    void changeval(int &);

    x = 5;
    printf("%d\n", x);
    changeval(x);
    printf("%d\n", x);
}

void changeval(int &a)
{
    a = 3;
}

~
~
~
"main.c" 23L, 335C
```

int &  
pass by address  
reference  
changeval(x)

