

8c - Pass a pointer to a function.

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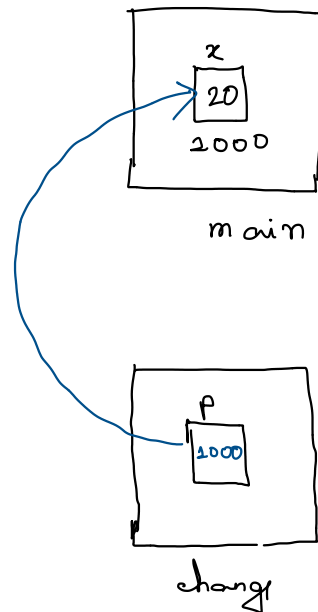
```
main () {
```

```
    int x;  
    x = 20;  
    change (&x);  
    printf ("%d", x);  
}
```

Since an address is being passed, it should pass to an int ptr (*p).

```
change (int *p) {  
    *p = *p + 10;  
}
```

change (&x);
↓
change (1000);



So,

change (int *p)

*p is a pointer holding address of x.

So,

*p = *p + 10;

Since it holds &x, *p = value of x
i.e. 20

=> *p = 20 + 10;

=> *p = 30;

Fake Swap

Done by passing address to ptr for swap and swapping the x, y and not $*x, *y$

eg:

```
void swap (int *x, int *y) {
```

```
    static int *temp;
```

```
    temp = x;
```

```
    x = y;
```

```
    y = temp;
```

```
}
```

Fake swap as x and y are being swapped.

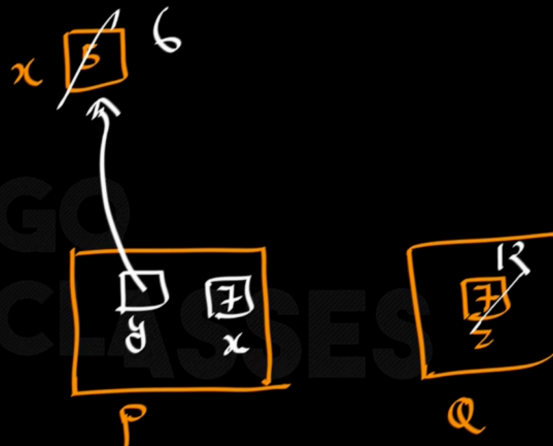
If $*x$ & $*y$ we swapped then it would be a real swap.

```
#include <stdio.h>
#define print(x) printf("%d", x)
```

```
int x;
void Q(int z)
{
    z += x;
    print(z);
}
```

```
void P(int *y)
{
    int x = *y + 2;
    Q(x);
    *y = x - 1;
    print(x);
}
```

```
main(void) {
    x = 5;
    P(&x);
    print(x);
}
```



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