

Wk 1+2 strings (UTF-8, char*, ASCII)
arrays printing
bitwise ops datatypes byte-by-byte

Wk 3+4 Memory, processes, command-line args
how a program runs on a computer
"system calls" - asking the OS to do things
(printf is actually a system call)

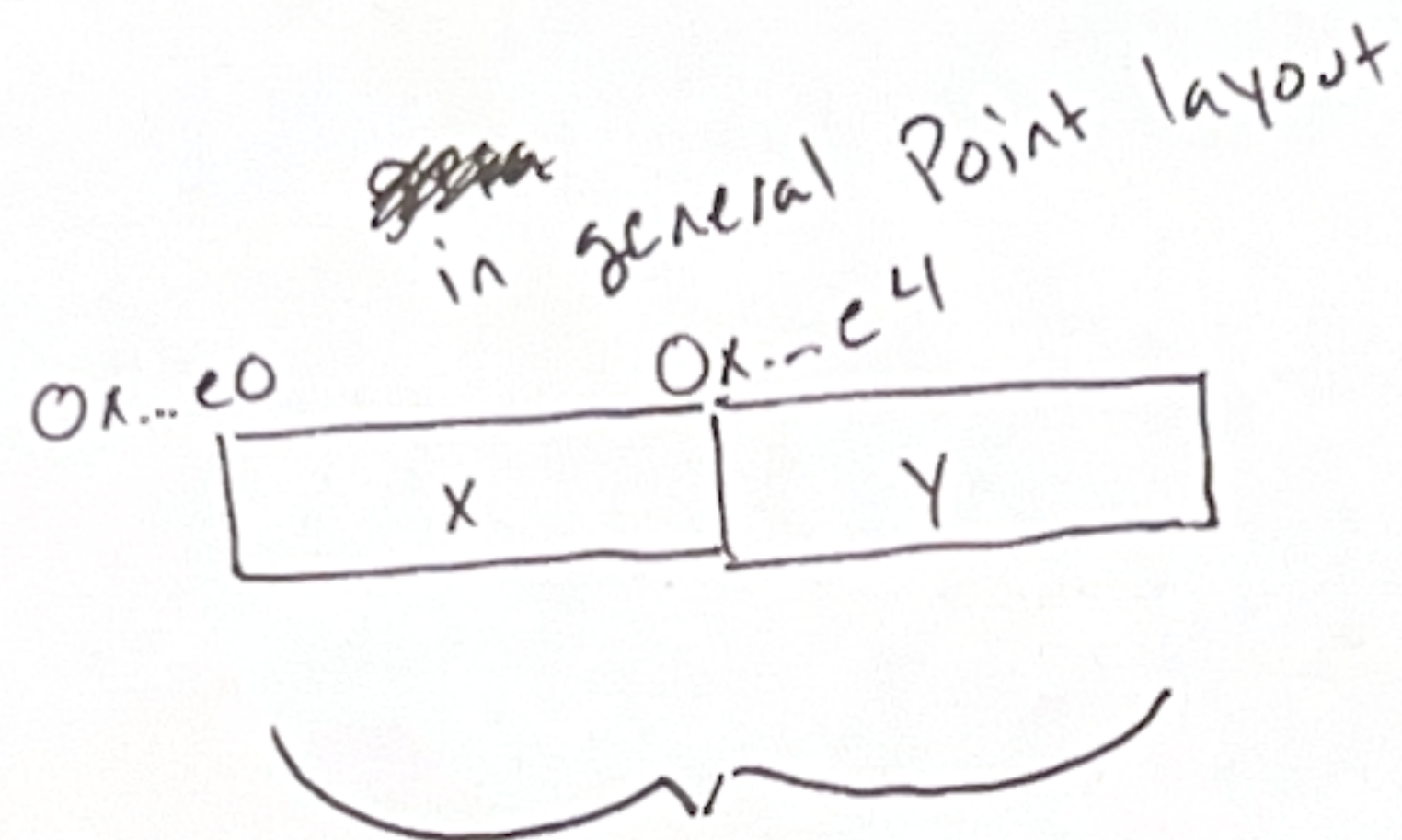
Wk 5+6 Memory management, "objects" in C
Behind the scenes of objects Python, Java

~~Ques~~ Questions before we move on?

structs in C

```
typedef struct Point {  
    int x;  
    int y;  
} Point;
```

typedef makes it so I can
write 'Point' instead of 'struct Point'



```
int main() {
```

```
    Point p = { 3, 4 };
```

```
    Point p2 = { 7, 8 };
```

```
    &p      0x...40
```

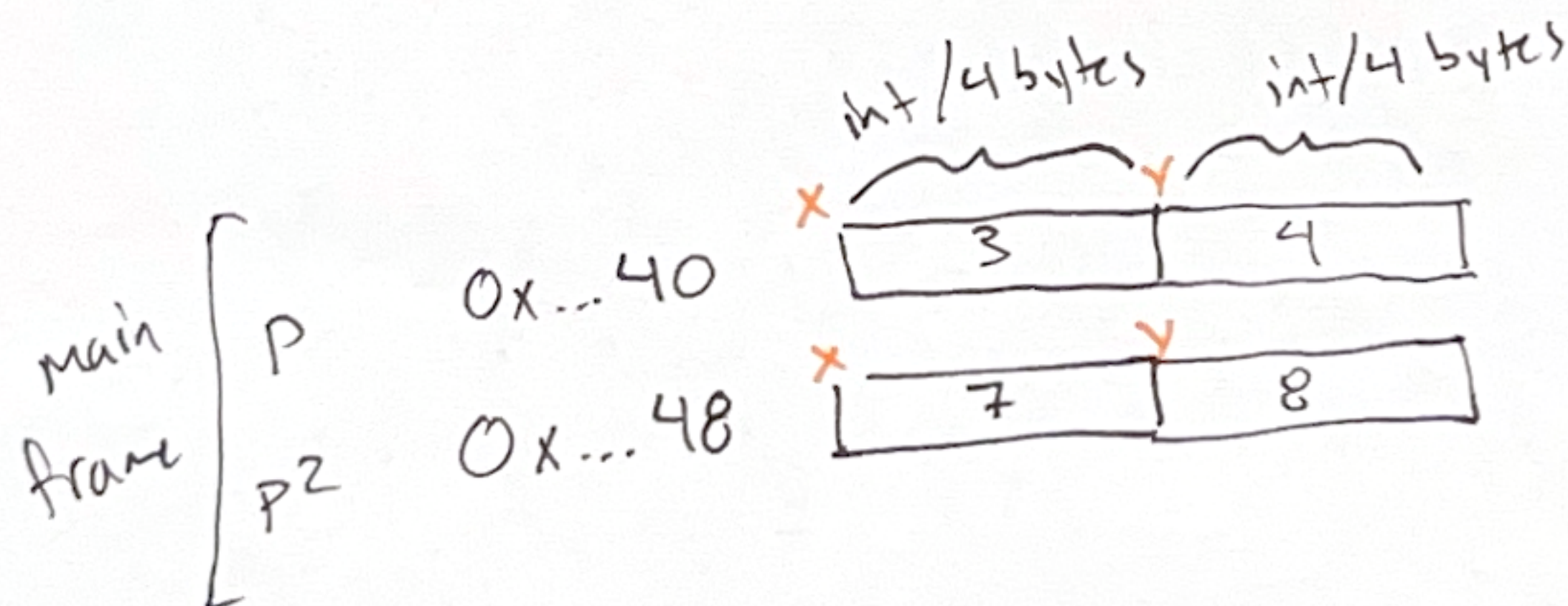
```
    &p.x    0x...40
```

```
    &p.y    0x...44
```

```
    &p2     0x...48
```

```
    &p2.x   0x...48
```

```
    &p2.y   0x...4c
```



```
}
```

```

Point add(Point a, Point b) {
    int x = a.x + b.x;
    int y = a.y + b.y;
    Point added = { x, y };
    return added;
}

```

```

int main() {
    Point p1 = { 3, 4 };
    Point p2 = { 7, 8 };
    Point result = add(p1, p2);
    updateX(p1, 30);
    printf("%d", p1.x); // prints 3
}

```

```

void updateX(Point p)
void updateX(Point p, int newX) {
    p.x = newX;
}

```

What about an array as a field of a struct? To be cont...

