

CS Summer Challenge

Day 0x2 / 0x3

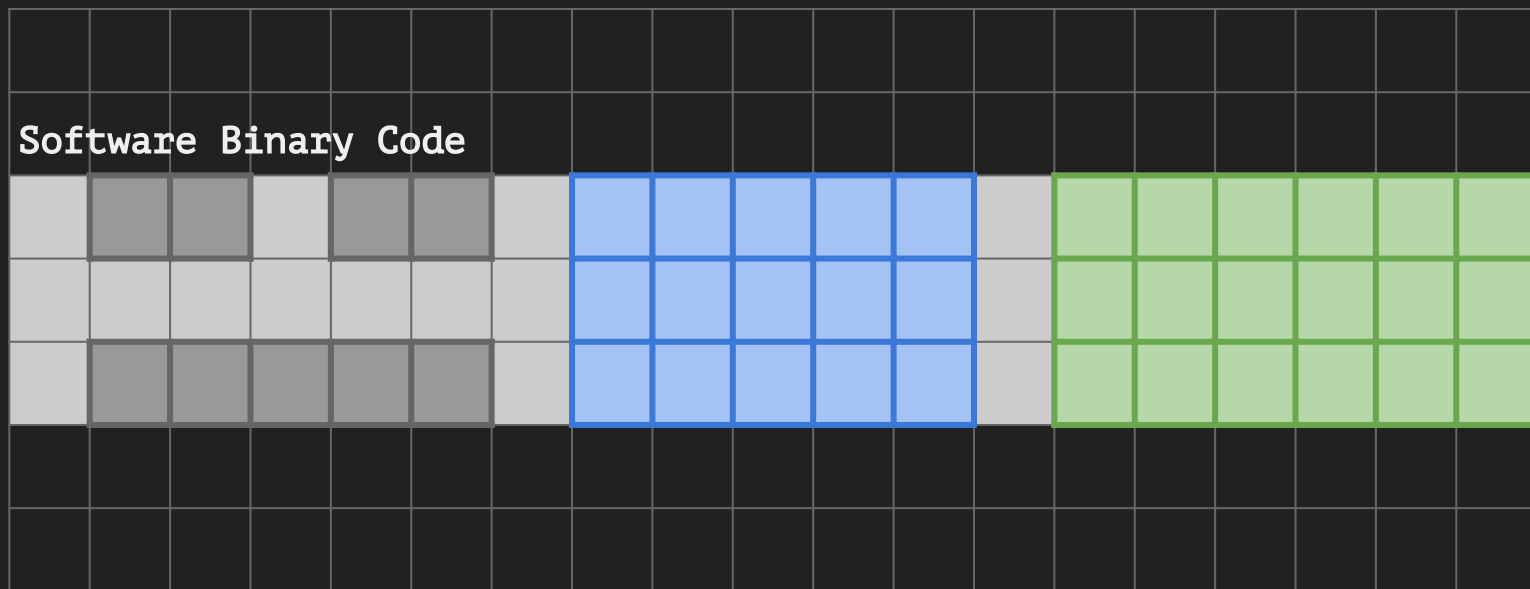
How does a code work?

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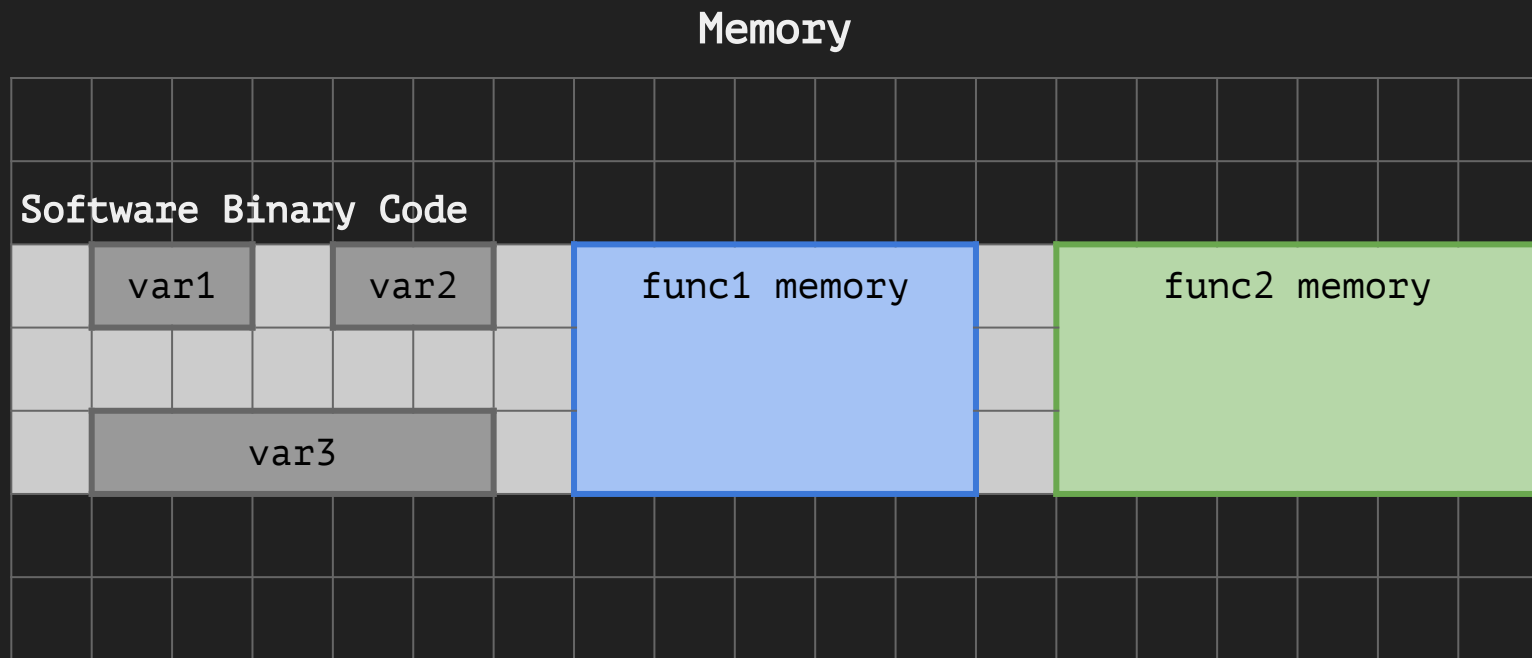
Variables Explained

Variables: *are translated into their binary encoding and added to the binary code of the software.*

Memory



Variables: *values change in the memory locations allocated for the variables*

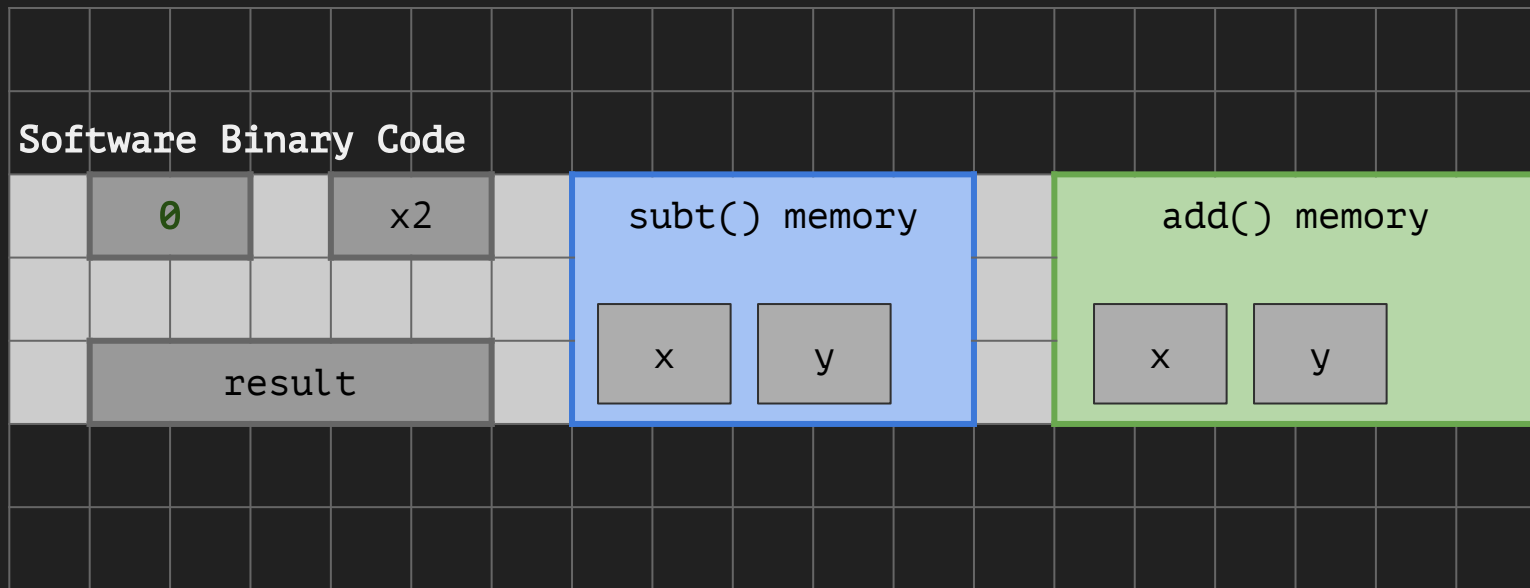


```
x1 = 0
```

```
...
```

```
def get_input():  
    x1 = int(input())
```

```
...
```



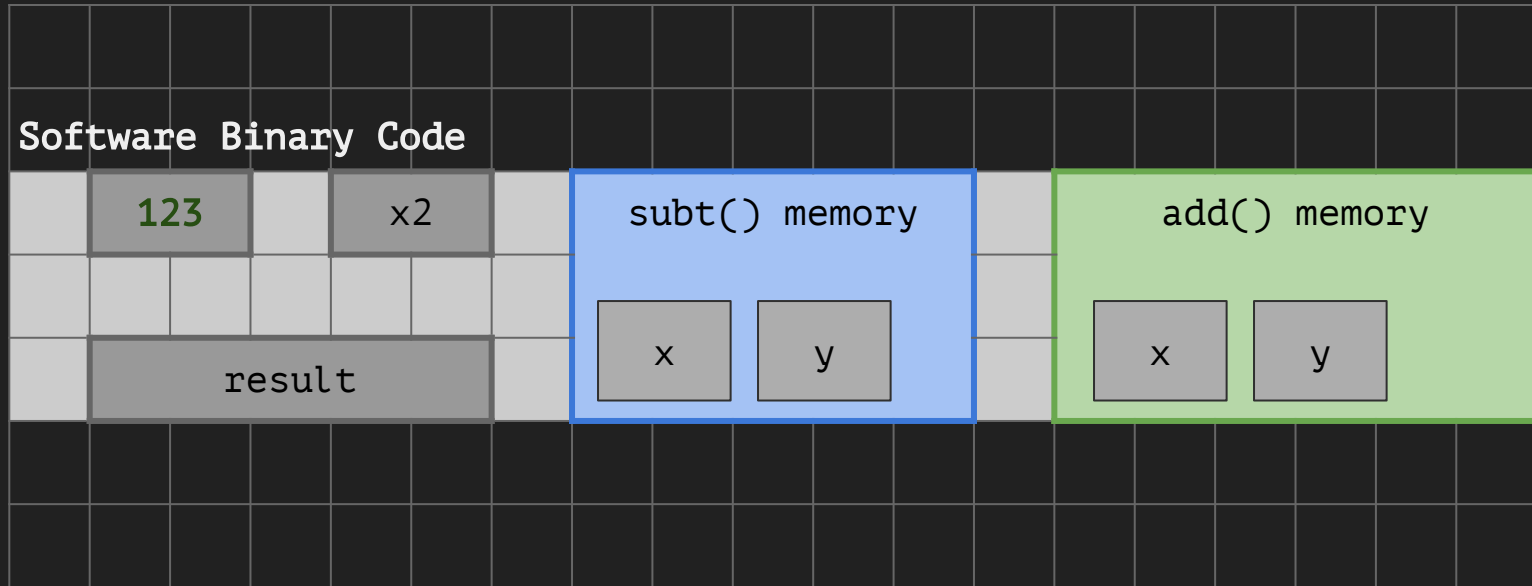
```
x1 = 0
```

```
...
```

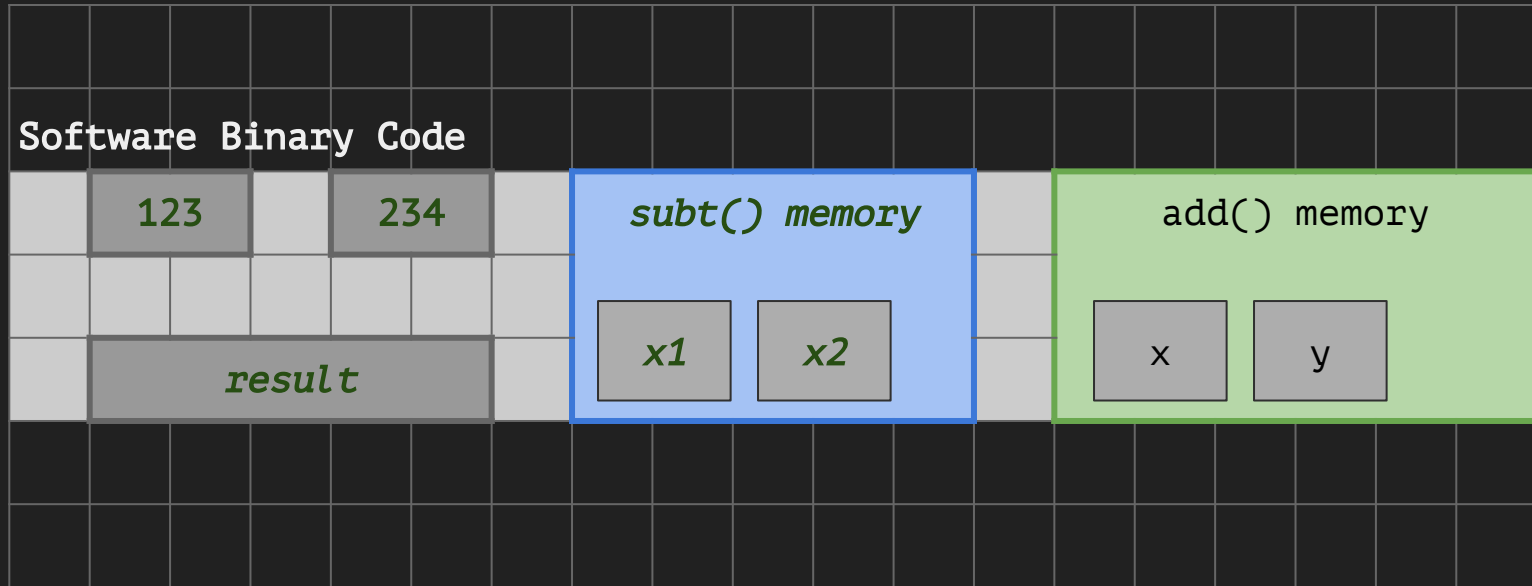
```
def get_input():
```

```
    x1 = int(input())
```

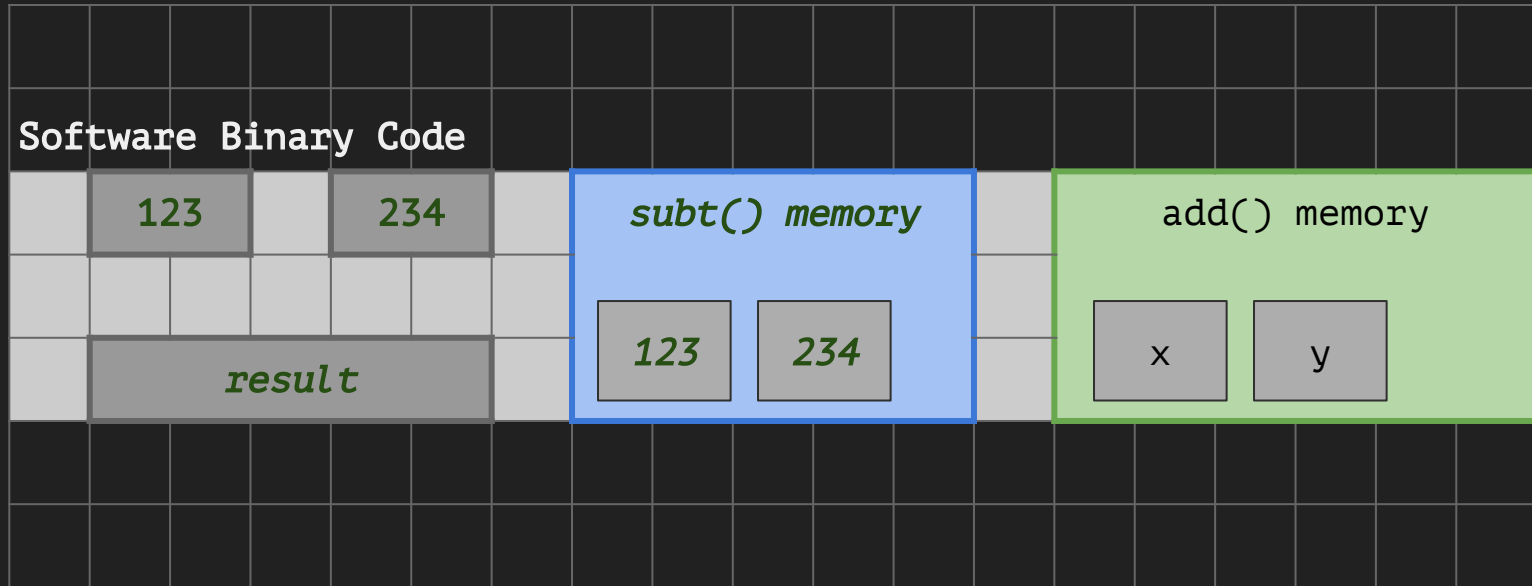
```
    ...
```



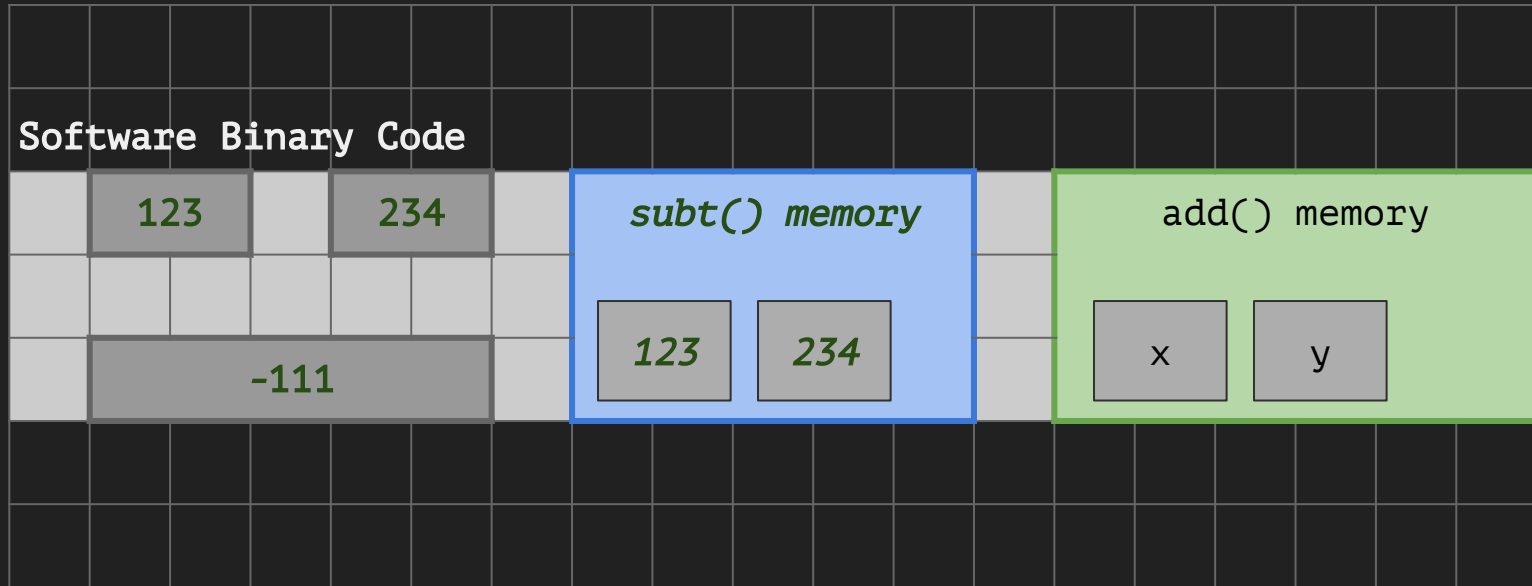
```
...  
result = sub(x1, x2)  
def sub(x, y):  
    return x - y  
...
```



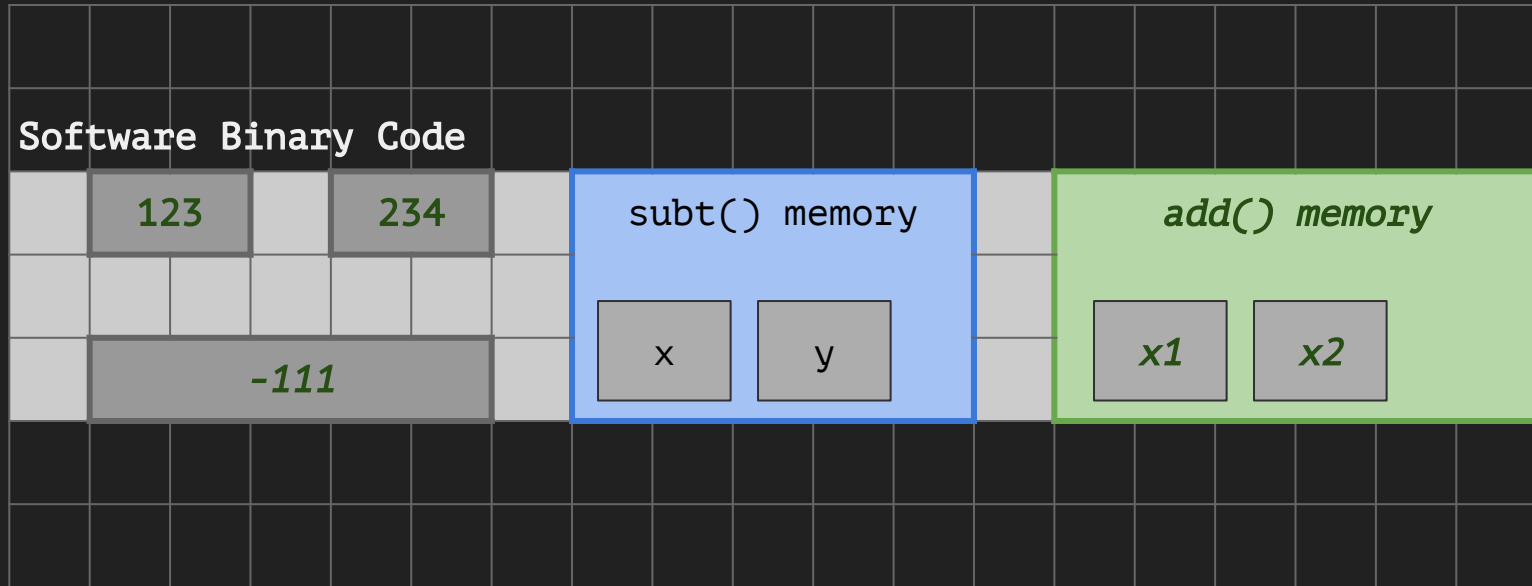
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...  
result = sub(x1, x2)  
def sub(x, y):  
    return x - y  
...
```



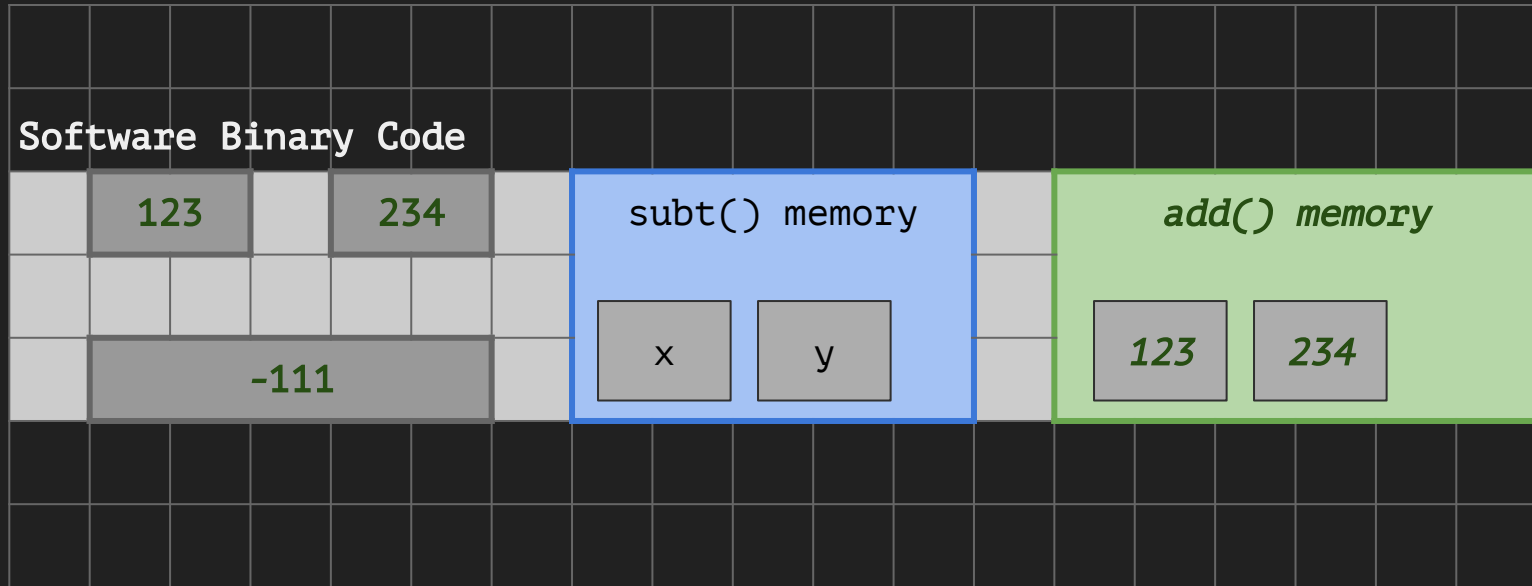

```
...  
result = sub(x1, x2)  
def sub(x, y):  
    return x - y  
...
```



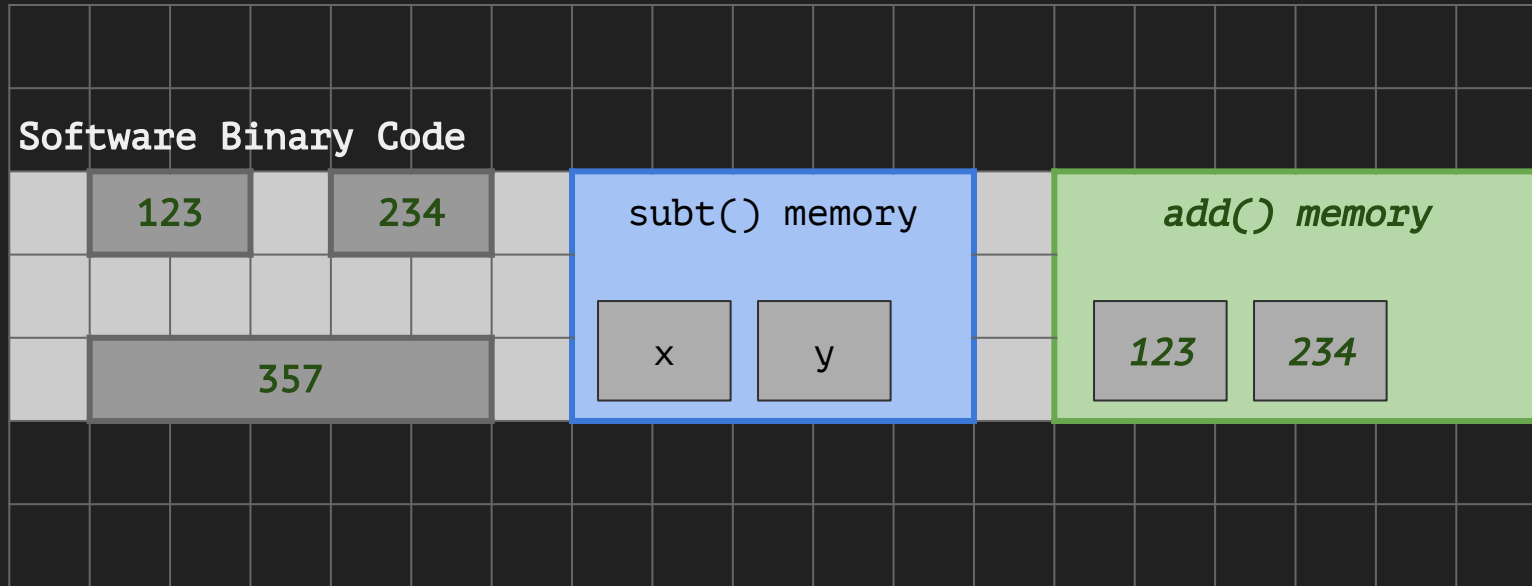
```
...  
result = add(x1, x2)  
def add(x, y):  
    return x + y  
...
```



```
...  
result = add(x1, x2)  
def add(x, y):  
    return x + y  
...
```



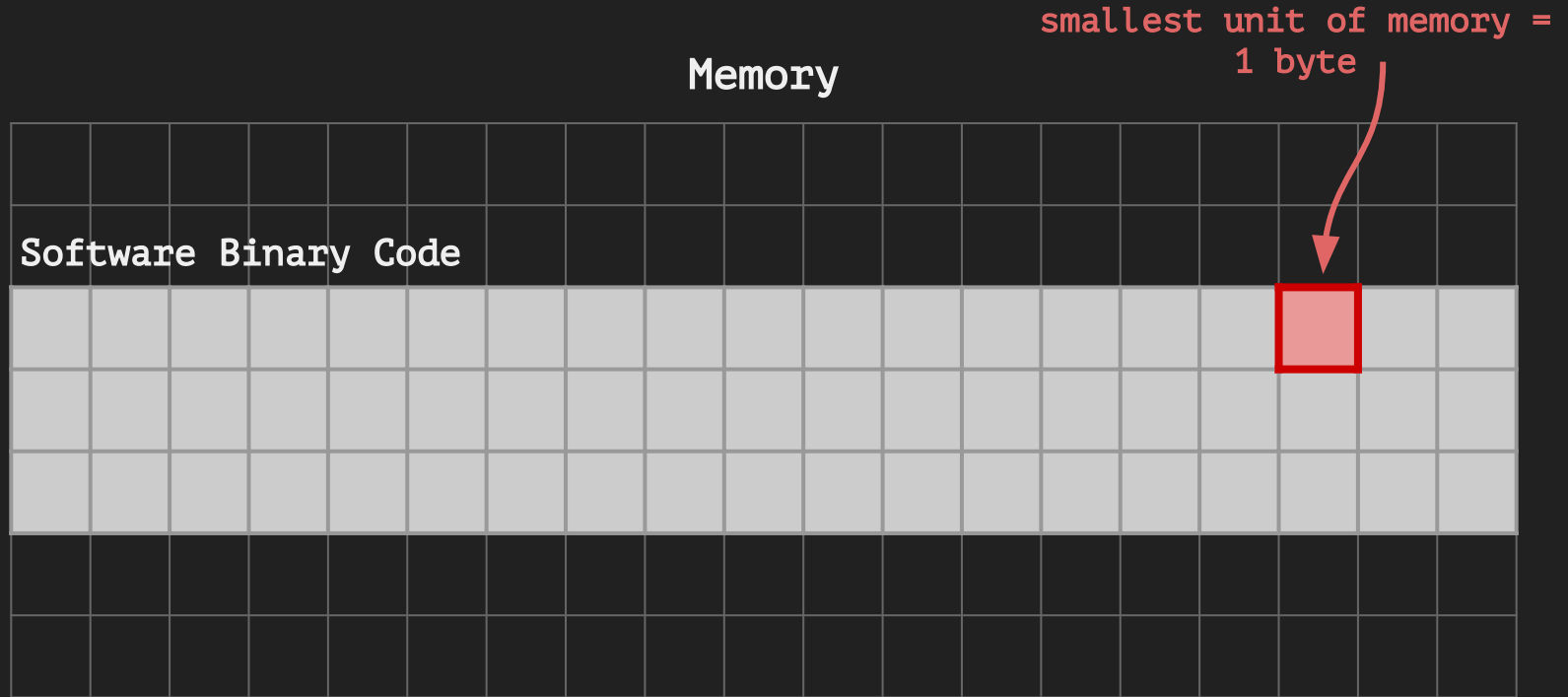
```
...  
result = add(x1, x2)  
def add(x, y):  
    return x + y  
...
```



How does code work?

Variable Types

Variables: *consume different amounts of memory based on their data type*



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Memory

integer				character																											
26					c		decimal				number																				
2		6		\n		h		e		l		l		o		w		o		r		l		d		!		!		\n	
string				string																											

Variables: *have different binary encodings depending on their data type*

Memory

integer 01100011

0...011110 c decimal number

001100100011011000010000

h e l l o w o r l d ! ! \n

string string