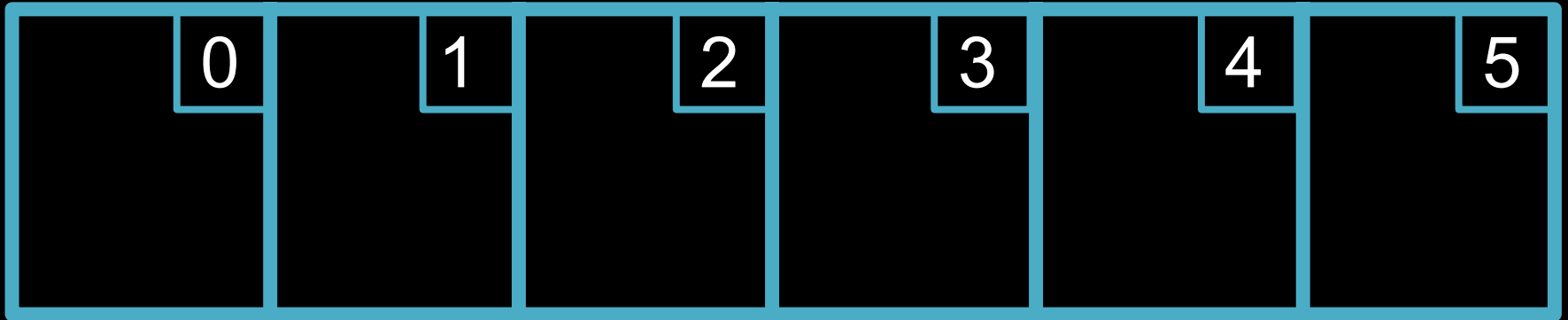


Arrays

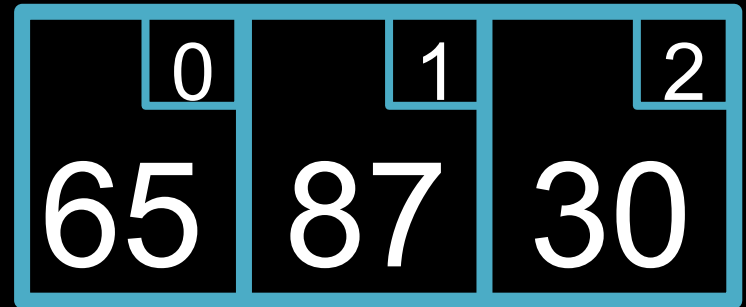


Creating an Array

```
<data type> name[<size>;
```

Example:

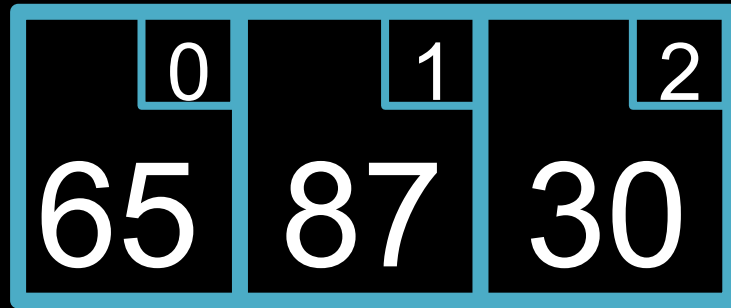
```
int temperature[3];  
temperature[0] = 65;  
temperature[1] = 87;  
temperature[2] = 30;
```



OR

```
int temperature[] = { 65, 87, 30 };
```

Accessing Array Elements



```
for (int i = 0; i < 3; i++)  
{  
    printf("%d\n", temperature[i]);  
}
```

```
#include <stdio.h>
```

```
#include <cs50.h>
```

```
#define CLASS_SIZE 30
```

```
int main(void)
```

```
{
```

```
    // declare array
```

```
    int scores_array[CLASS_SIZE];
```

```
    // populate array
```

```
    for (int i = 0; i < CLASS_SIZE; i++)
```

```
    {
```

```
        printf("Enter score for student %d: ", i);
```

```
        scores_array[i] = GetInt();
```

```
    }
```

```
}
```

Where's the bug?

```
string class[3] = { "Sam", "Jess", "Kim" };  
  
for (int i = 0; i <= 3; i++)  
{  
    printf("%s\n", class[i]);  
}
```

Multidimensional Arrays

```
char board[3][3];  
board[1][1] = 'o';  
board[0][0] = 'x';  
board[2][0] = 'o';  
board[0][2] = 'x';
```

0,0 X	0,1	0,2 X
1,0	1,1 O	1,2
2,0 O	2,1	2,2

Accessing Multidimensional Array Elements

```
// print out all elements
for (int i = 0; i < 3; i++)
{
    for (int j = 0; j < 3; j++)
        printf("%c", board[i][j]);
    printf("\n");
}
```