List Assignment

- **Format:**
  - `<var>[<index>]=<value>`
  - Reassign at index
  - Affects folder contents
  - Variable is unchanged

- **Strings cannot do this**
  - Strings are immutable
1st Clicker Question

- Execute the following:
  ```python
  >>> x = [5, 6, 5, 9, 10]
  >>> x[3] = -1
  >>> x.insert(1, 2)
  ```
- What is `x[4]`?

  A: 10  
  B: 9  
  C: -1  
  D: **ERROR**  
  E: I don’t know

List Slices Make Copies

```
x = [5, 6, 5, 9]
y = x[1:3]
```

A copy means a new folder

2nd Clicker Question

```python
def swap(b, h, k):
    # Procedure swaps b[h] and b[k] in b
    Precondition: b is a mutable list, h and k are valid positions in the list
    temp = b[h]
    b[h] = b[k]
    b[k] = temp
```

```
x = [5, 4, 7, 6, 5]
swap(x, 3, 4)
print x[3]
```

A: 5  
B: 6  
C: Something else  
D: I don’t know

3rd Clicker Question

- Execute the following:
  ```python
  >>> x = [5, 6, 5, 9, 10]
  >>> y = x[1:]
  >>> y[0] = 7
  ```
- What is `x[1]`?

  A: 7  
  B: 5  
  C: 6  
  D: **ERROR**  
  E: I don’t know

Lists and Expressions / 5th Clicker Question

- List brackets [ ] can contain expressions
- This is a list **expression**
  - Python must evaluate it
  - Evaluates each expression
  - Puts the value in the list

  Example:
  ```python
  >>> a = [1+2, 5+4, 5+6]
  >>> a
  [3, 9, 11]
  ```
  ```python
  >>> a = 5
  >>> b = 7
  >>> x = [a, b, a+b]
  >>> x
  [5, 7, 12]
  ```

- Execute the following:
  ```python
  >>> a = 5
  >>> b = 7
  >>> x = [a, b, a+b]
  ```
- What is `x[2]`?

  A: `a+b`  
  B: 12  
  C: 57  
  D: **ERROR**  
  E: I don’t know