

// Creating lists

```
["a", "b", "c"]    # literal
[]                # empty
list()           # empty
list(range(1, 6)) # [1, 2, 3, 4, 5]
list("Bull")     # ["B","u","l","l"]
```

// Indexing

```
sq = ["Raven","Wolf","Ghost"]
sq[0]    # Raven (first)
sq[-1]   # Ghost (last)
sq[1]    # Wolf
```

// Slicing list[start:stop:step]

```
sq[1:3]    # ['Wolf', 'Ghost']
sq[:2]     # first 2
sq[1:]     # from index 1 to end
sq[:]      # full copy
sq[::-1]   # reversed copy
sq[::2]    # every 2nd element
```

// Adding elements

```
sq.append('Bull')    # add to end
sq.insert(1, 'Viper') # add at index
sq.extend(['a','b']) # add many
```

// Removing elements

```
sq.remove('Wolf')    # by value
sq.pop()             # last, returns it
sq.pop(1)            # by index
sq.clear()           # empty the list
```

// Sorting & reversing

```
sq.sort()            # ascending
sq.sort(reverse=True) # descending
sq.reverse()         # flip in place
# sort() and reverse() return None
```

// Inspecting

```
"Wolf" in sq        # True / False
"Fox" not in sq     # True / False
len(sq)             # number of items
sq.index('Ghost')   # position
sq.count('Wolf')    # occurrences
min(scores)         # smallest
max(scores)         # largest
sum(scores)         # total
```

// Copying

```
backup = sq.copy()  # independent copy
# backup = sq       WRONG – same list
```

// Iterating

```
for item in sq:
    print(item)

for i, item in enumerate(sq):
    print(i, item)

for a, b in zip(sq, other):
    print(a, b)
```

// Nested lists

```
grid = [[1,2,3],[4,5,6]]
grid[0]    # [1, 2, 3]
grid[0][1] # 2

for row in grid:
    for item in row:
        print(item)
```

// split() – string to list

```
"a b c".split()    # ["a","b","c"]
"a,b,c".split(",") # ["a","b","c"]
"a b c".split(" ", 1) # ["a","b c"]
```

// Common mistakes

```
sq = sq.append('x') # None! no assign
sq[5] on len-3 list # IndexError
sq.remove('x')      # ValueError if missing
sq.append([a,b])    # nested – use extend
b = sq              # same list – use .copy()
# modify list in loop # unpredictable
sq[0:3]             # stop is exclusive
```