Go Slice Tricks Cheat Sheet
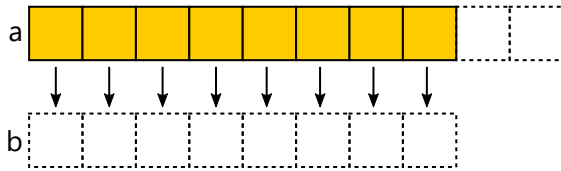
https://github.com/golang/go/wiki/SliceTricks
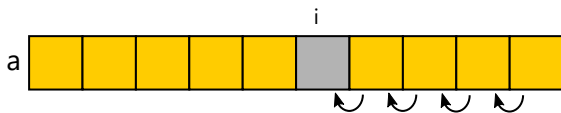
AppendVector

Copy


```
b = make([]T, len(a))
copy(b, a)
```

```
b = append([]T(nil), a...)
```

```
b = append(a[:0:0], a...)
```

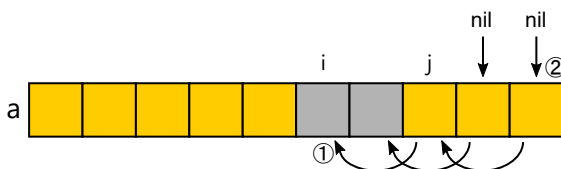## Cut


```
a = append(a[:i], a[j:]...)
```

Delete


```
a = append(a[:i], a[i+1:]...)
```

```
a = a[:i+copy(a[i:], a[i+1:])]
```

Delete without preserving order
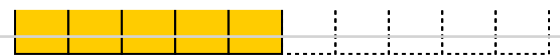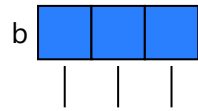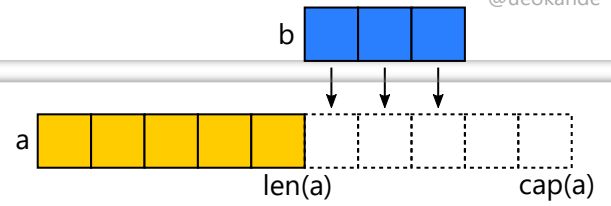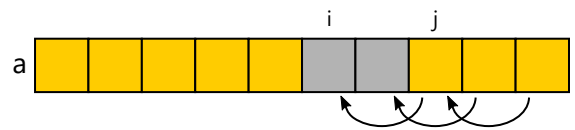


```
a[i] = a[len(a)-1]
a = a[:len(a)-1]
```

Cut (GC)


```
copy(a[i:], a[j:])
for k, n := len(a)-j+i, len(a); k < n; k++ {
  a[k] = nil // or the zero value of T
}
a = a[:len(a)-j+i]
```
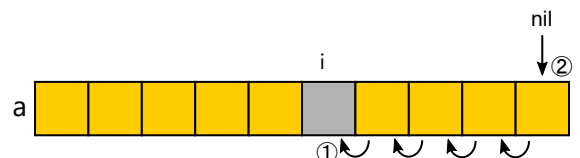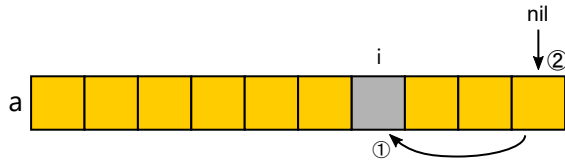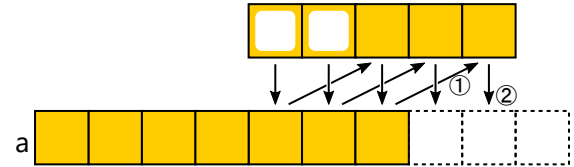
Delete (GC)

Delete without preserving order (GC)

```
a[i] = a[len(a)-1]
a[len(a)-1] = nil
a = a[:len(a)-1]
```
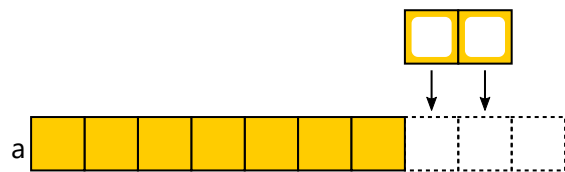
```
if i < len(a)-1 {
  copy(a[i:], a[i+1:])
}
a[len(a)-1] = nil // or the zero value of T
a = a[:len(a)-1]
```

Expand

```
a = append(a[:i], append(make([]T, j), a[i:]...)...)
```
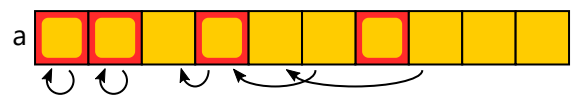
Extend

```
a = append(a, make([]T, j)...)
```
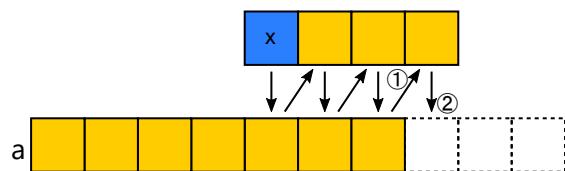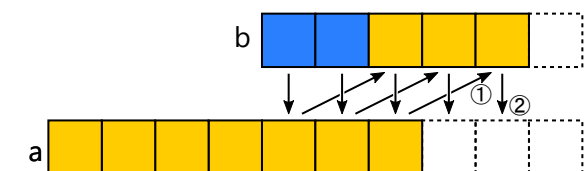
Filter (in place)

```
n := 0
for _, x := range a {
  if keep(x) {
    a[n] = x
    n++
  }
}
a = a[:n]
```
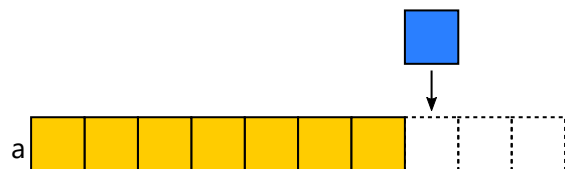
Insert

```
a = append(a[:i], append([]T{x}, a[i:]...)...)
```

InsertVector

```
a = append(a[:i], append(b, a[i:]...)...)
```
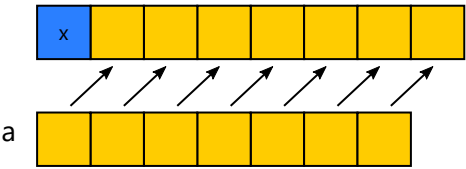
Push

```
a = append(a, x)
```

Pop

Push Front/Unshift

```
x, a = a[len(a)-1], a[:len(a)-1]
```

```
a = append([]T{x}, a...)
```

Pop Front/Shift

```
x, a = a[0], a[1:]
```