



# Data Structures Exercise - Event Emitter

The event emitter emits events and calls the callbacks that are subscribed to them.

This is similar to subscribing to window events (mousedown, keydown, etc.)

The event names are strings.

When someone calls the "emit" method of the event emitter with the name of the event and the relevant arguments (for example `EventEmitter.emit('keydown', {key, shiftkey, ...})`) the callbacks that are subscribed to this event are called with the given arguments (in the example case, the object with the event details).

A callback can't be subscribed more than once to the event (comparison made by reference).

The return value of subscribing is an object with the "unsubscribe" method. When this method is called, the callback is removed from the subscription.

**Bonus:** If an event doesn't have any subscriptions, it does not "waste" any place in the memory.

## Usage:

### Subscription:

```
function logKeydown (event) {  
  console.log('keyboard pressed: ', event.key);  
}
```

```
function alertKeydown (event) {  
  alert('keyboard pressed: ' + event.key);  
}
```

```
const logKeydownSubscription = EventEmitter.subscribe('keydown', logKeydown);  
const alertKeydownSubscription = EventEmitter.subscribe('keydown',  
logKeydown);
```



### Emitting:

The event is emitted by someone/something else which triggers the logKeydown and alertKeydown functions:

```
EventEmitter.emit('keydown', {key: 'Enter'});
```

The callback functions are called and the result is:

console → keyboard pressed: Enter

alert: keyboard pressed: Enter

The event is emitted again:

```
EventEmitter.emit('keydown', {key: 'Right'});
```

The callback functions are called and the result is:

console → keyboard pressed: Right

alert → keyboard pressed: Right

### unsubscribing:

```
alertKeydownSubscription.unsubscribe();
```

The event is emitted again:

```
EventEmitter.emit('keydown', {key: 'Left'});
```

Only the logKeydown callback functions is called and the result is:

console → keyboard pressed: Left

```
logKeydownSubscription.unsubscribe();
```

```
EventEmitter.emit('keydown', {key: 'Up'});
```

No callback is subscribed to the event, so nothing happens.