

* i n normal cases

* " i " →

* " ip " →

* " iph " →

* " ipho " →

* " iphon " →

* " iphone " →

*

"i"

*

"ip"

```
timerId = setTimeout(() => {  
    autosuggest("i");  
}, 200);
```

```
if (timerId) {  
    clearTimeout(timerId);  
    timerId = setTimeout(() => {  
        autosuggest("ip");  
    }, 200);  
}
```

delay $\Rightarrow 300 \text{ ms}$

11
11

11 11
11 11

* auto suggest



console.log ("search query")

"i" → i

"ip" → ip



"iphone" →

```

8 const debounceFn = (normalFn, delay) => {
9   let timerId;
10  // debounceFn should return us a function
11  // that internally calls normalFn
12  return function (...args) {
13    // this is rest operator
14    if (timerId) {
15      clearTimeout(timerId);
16    }
17    timerId = setTimeout(() => {
18      normalFn(...args);
19    }, delay);
20  };
21 };
22
23 const searchFn2 = debounceFn(searchFn, 200);
24

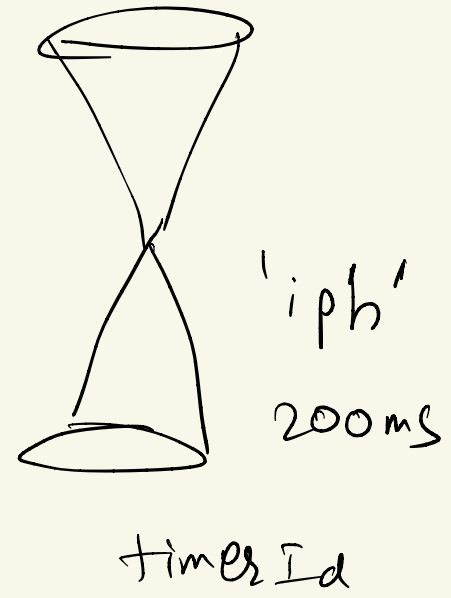
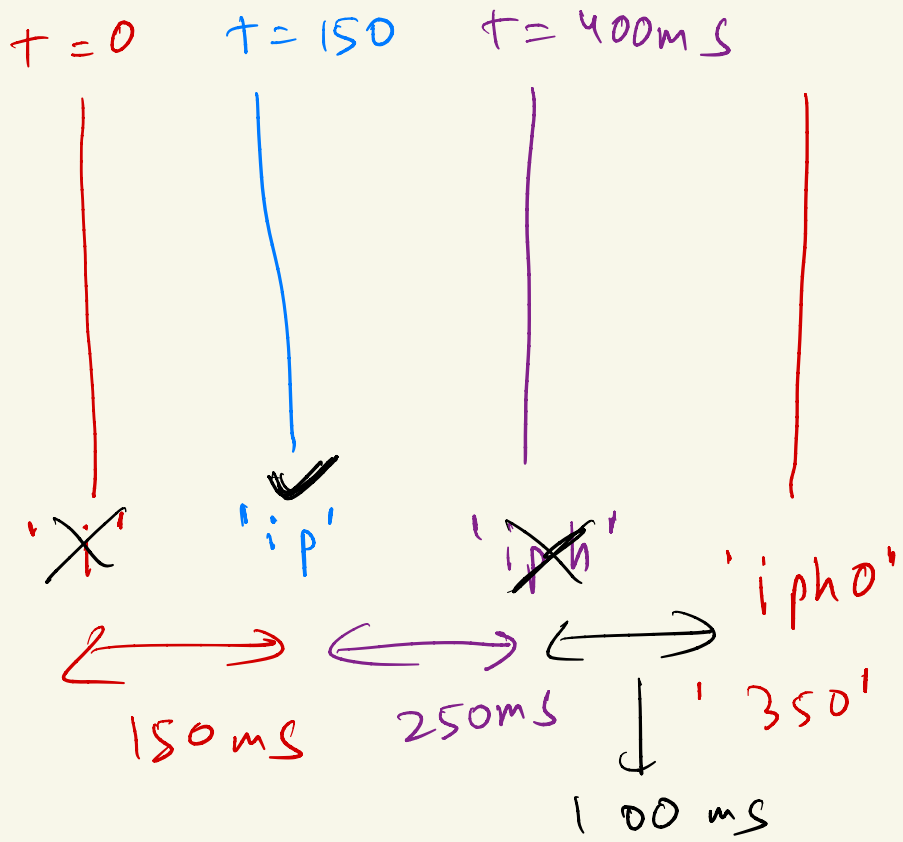
```

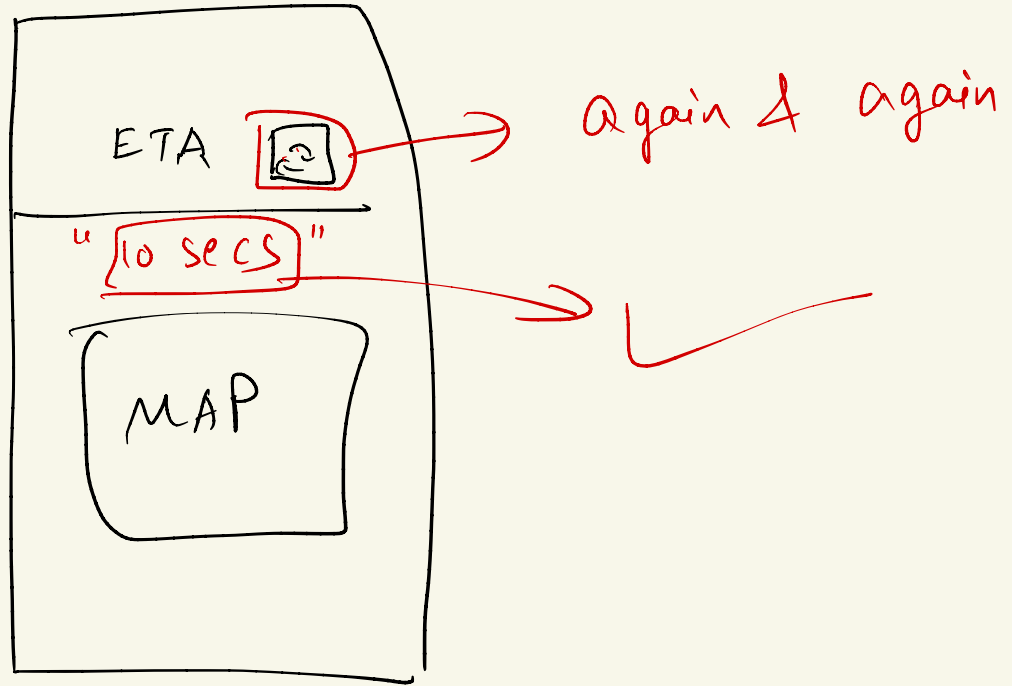
'ip'

normal
'iph'
200ms
timerId

t = 0, 'i'
t = 150, 'ip'
t = 400, 'iph'

Stop watch
t = 400





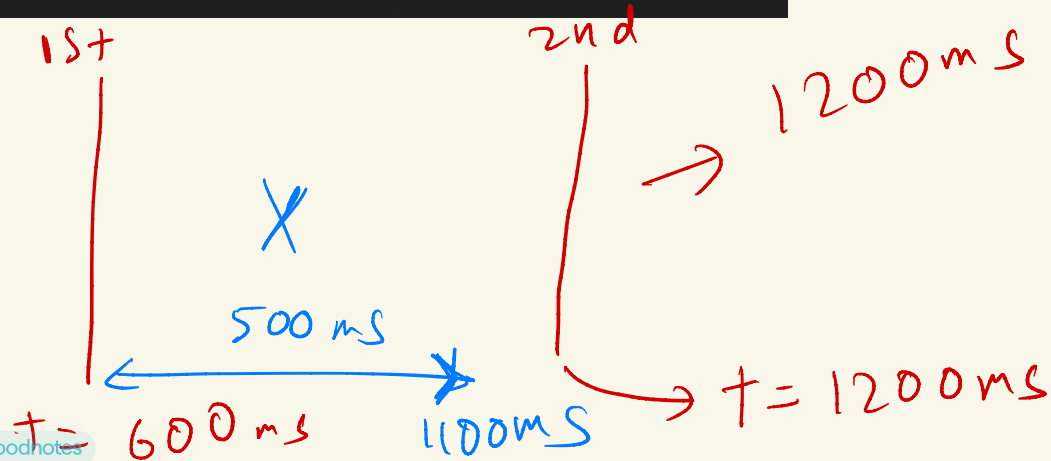


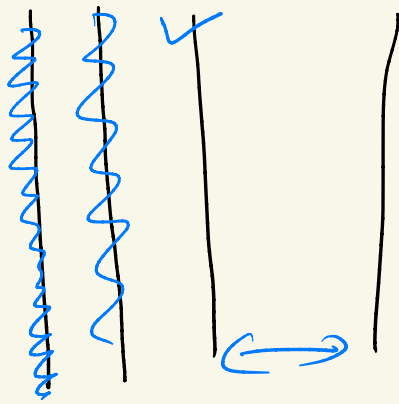
Cooldown Time = 200 ms

```
const throttleFn = (normalFn, cooldownTime) => {
  let lastExeFnTime = 0;
  return function (...args) {
    let currentTime = new Date().getTime();
    if (currentTime - lastExeFnTime < cooldownTime) {
      // do nothing
      return;
    } else {
      normalFn(...args);
      lastExeFnTime = currentTime;
    }
  };
};

const modifiedShotGun = throttleFn(shotgunFire, 500);
```

1200ms

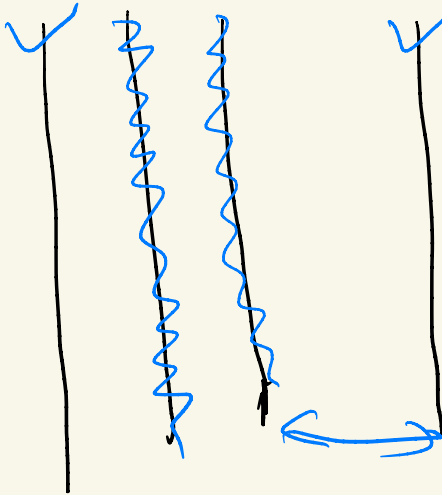




future API
calls are powerful

debouncing

throttling



were the last
executed
fn is powerful