CS 1520
Recitation 11
Date: 30th November, 2018

```
iceCreams = [
  { flavor: 'pineapple', color: 'white', price: 1 },
  { flavor: 'strawberry', color: 'red', price: 2 },
  { flavor: 'watermelon', color: 'red', price: 3 },
  { flavor: 'kiwi', color: 'green', price: 4 },
  { flavor: 'mango', color: 'yellow', price: 5 },
  { flavor: 'pear', color: 'green', price: 6 }
];
```

1. Use the **filter** method to create a new array with only red colored ice cream. Remember, filter creates a new array

   JS:

```
const favoriteFlavors = iceCreams
    .filter(iceCream => iceCream.color === 'red');
```

   Python:

```
favoriteFlavors = filter(lambda iceCream: iceCream['color'] == 'red', iceCreams)
```

2. Use **map** method to create a new array of strings, with all the flavors of ice cream.

   JS:

```
const flavors = iceCreams.map(icecream => icecream.flavor)
```

   Python:

```
Flavors = map(lambda icecream: icecream['flavor'], iceCreams)
```

3. Use **reduce** method to calculate the average price of the flavors.

   JS:

```
const avg_price = iceCreams.reduce((icecream, total) =>
icecream.price + total, 0) / iceCreams.length
```

   Python:

```
avg_price = reduce(lambda icecream, total: icecream['price'] + total,  iceCreams) /
            len(iceCreams)
```

4. Use **map** and r**educe** to calculate the increasing sums (prefix sums) of the flavor prices. That is, given the iceCreams, calculate and return the following list:

   [1, 3, 6, 10, 15, 21]

   You only need one line to do this!

   JS:

```
const inc_sum = iceCreams.map( (x, i, A) => A.slice(0, i+1).reduce((y, z)=>y.price+z, 0));
```

   Python:
   (Use **enumerate** function to get the indices)

```
map(lambda (i, icecream): reduce(lambda y, z: y['price'] + z, iceCreams[0:i+1]),
    enumerate(iceCreams))
```