



# MAP REDUCE GENERATOR

## Imperative Solution

```
<html>
  <head>
    <title>Functional Programming</title>
  </head>
  <body>
    <div>Iterative Script</div>
    <script>
      var a = [10,20,30];
      for( var v in a){
        console.log(a[v]);
      }
    </script>
  </body>
</html>
```

```
<html>
  <head>
    <title>Functional Programming</title>
  </head>
  <body>
    <div>Iterative Script</div>
    <script>
      var a = [10,20,30];
      console.log("Loop using of")
      for( let v of a){
        console.log(v);
      }
    </script>
  </body>
</html>
```

## Functional Solution





```
<html>
  <head>
    <title>Functional Programming</title>
  </head>
  <body>
    <div>Functional Script</div>
    <script>
      var a = [10,20,30];
      console.log("Loop using foreach")
      a.forEach(x=>console.log(x));
    </script>
  </body>
</html>
```

```
<html>
  <head>
    <title>Functional Programming</title>
  </head>
  <body>
    <div>Functional Script</div>
    <script>
      var a = [10,20,30,40,50,60,70];
      a.forEach(x=>console.log(x));
      a.filter(x=>x>30).forEach(x=>console.log(x));
      var v = a.find(x=>x>20);
      console.log(v);
    </script>
  </body>
</html>
```

## Map Function





```
</html>
<head>
  <title>Functional Programming</title>
</head>
<body>
  <div>Functional Script</div>
  <script>
    var a = [10,20,30,40,50,60,70];
    a.forEach(x=>console.log(x));
    a.filter(x=>x>30).forEach(x=>console.log(x));
    var v = a.find(x=>x>20);
    console.log(v);
    a.map(x=>x*3).forEach(x=>console.log(x));
    a.forEach(x=>console.log(x));
    var b = a.map(x=>x*2);
    console.log("Printing b");
    b.forEach(x=>console.log(x));
  </script>
</body>
</html>
```





```
<html>
  <head>
    <title>Functional Programming</title>
  </head>
  <body>
    <div>Functional Script</div>
    <script>
      var a = [10,20,30,40,50,60,70];
      a.forEach(x=>console.log(x));
      a.filter(x=>x>30).forEach(x=>console.log(x));
      var v = a.find(x=>x>20);
      console.log(v);
      a.map(x=>x*3).forEach(x=>console.log(x));
      a.forEach(x=>console.log(x));
      var b = a.map(x=>x*2);
      console.log("Printing b");
      b.forEach(x=>console.log(x));
      var k = 5;
      a.map(x=>x+1).map(y=>y+k).map(x=>x-
1).forEach(x=>console.log(x));
    </script>
  </body>
</html>
```

## Reduce Function





```
    </html>
    <head>
      <title>Functional Programming</title>
    </head>
    <body>
      <div>Functional Script</div>
      <script>
        var a = [10,20,30,40,50,60,70];
        a.forEach(x=>console.log(x));
        a.filter(x=>x>30).forEach(x=>console.log(x));
        var v = a.find(x=>x>20);
        console.log(v);
        a.map(x=>x*3).forEach(x=>console.log(x));
        a.forEach(x=>console.log(x));
        var b = a.map(x=>x*2);
        console.log("Printing b");
        b.forEach(x=>console.log(x));
        console.log("Printing result of reduce");
        console.log(a.reduce((acc,v)=>acc+v));
        console.log("Printed result of reduce");
        var k = 5;
        a.map(x=>x+1).map(y=>y+k).map(x=>x-
1).forEach(x=>console.log(x));
        var result = a.map(x=>x*2).reduce((acc,v)=>acc+v,0);
        console.log("result = " + result);
      </script>
    </body>
  </html>
```

## Splice , Slice





```
</html>
<head>
  <title>Functional Programming</title>
</head>
<body>
  <div>Functional Script</div>
  <script>
    var a = Array.of(10,20,30,40,50,60,70);
    a.forEach(x=>console.log(x));
    a.slice(1,3).forEach(x=>console.log(x));
    a.slice(0,4).forEach(x=>console.log(x));
    a.slice(4).forEach(x=>console.log(x));
    a.slice(-3,-1).forEach(x=>console.log(x));
    var b = a.splice(2,5);
    console.log("Printing a");
    a.forEach(x=>console.log(x));
    console.log("Printing b");
    b.forEach(x=>console.log(x));
  </script>
</body>
</html>
```

## Generators





```
<html>
  <head>
    <title>Generator</title>
  </head>
  <body>
    <div>Functional Script</div>
    <script>
      function *f1(){
        var a = [10,20,30,40,50,60];
        for( let v of a){
          yield v;
        }
      }
      var g1 = f1();
      for( let v of g1 ){
        console.log(v);
      }
      var g2 = f1();
      var d = g2.next();
      console.log(d);
      while(!d.done){
        console.log(d.value);
        d = g2.next();
      }
    </script>
  </body>
</html>
```

## Object Iterator





```
</html>
<head>
  <title>Generator</title>
</head>
<body>
  <div>Functional Script</div>
  <script>
    var obj = {
      a : 10,
      b :20,
      c :30,
    };
    function *f1(){
      for( var v in this){
        yield this[v];
      }
    }
    obj[Symbol.iterator]= f1;

    for(let v of obj){
      console.log(v);
    }
  </script>
</body>
</html>
```

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