

```
1 class Set {
2   constructor() {
3     this.values = [];
4     this.numberOfValues = 0;
5   }
6
7   add(value) {
8     if(!~this.values.indexOf(value)) {
9       this.values.push(value);
10      this.numberOfValues++;
11    }
12  }
13
14  remove(value) {
15    const index = this.values.indexOf(value);
16    if(~index) {
17      this.values.splice(index, 1);
18      this.numberOfValues--;
19    }
20  }
21
22  contains(value) {
23    return this.values.indexOf(value) !== -1;
24  }
25
26  union(set) {
27    const newSet = new Set();
28    set.values.forEach(value => {
29      newSet.add(value);
30    });
31    this.values.forEach(value => {
32      newSet.add(value);
33    });
34    return newSet;
35  }
36
37  intersect(set) {
38    const newSet = new Set();
39    this.values.forEach(value => {
40      if(set.contains(value)) {
41        newSet.add(value);
42      }
43    });
44    return newSet;
45  }
46
47  difference(set) {
48    const newSet = new Set();
49    this.values.forEach(value => {
50      if(!set.contains(value)) {
51        newSet.add(value);
52      }
53    });
54    return newSet;
55  }
56
57  isSubset(set) {
58    return set.values.every(function(value) {
59      return this.contains(value);
60    }, this);
61  }
62}
```

```
61 }
62
63 length() {
64     return this.numberOfValues;
65 }
66
67 print() {
68     console.log(this.values.join(' '));
69 }
70 }
71
72 const set = new Set();
73 set.add(1);
74 set.add(2);
75 set.add(3);
76 set.add(4);
77 set.print(); // => 1 2 3 4
78 set.remove(3);
79 set.print(); // => 1 2 4
80 console.log('contains 4 is true:', set.contains(4)); // => true
81 console.log('contains 3 is false:', set.contains(3)); // => false
82 console.log('---');
83 const set1 = new Set();
84 set1.add(1);
85 set1.add(2);
86 const set2 = new Set();
87 set2.add(2);
88 set2.add(3);
89 const set3 = set2.union(set1);
90 set3.print(); // => 1 2 3
91 const set4 = set2.intersect(set1);
92 set4.print(); // => 2
93 const set5 = set.difference(set3); // 1 2 4 diff 1 2 3
94 set5.print(); // => 4
95 const set6 = set3.difference(set); // 1 2 3 diff 1 2 4
96 set6.print(); // => 3
97 console.log('set1 subset of set is true:', set.isSubset(set1)); // => true
98 console.log('set2 subset of set is false:', set.isSubset(set2)); // => false
99 console.log('set1 length gives 2:', set1.length()); // => 2
100 console.log('set3 length gives 3:', set3.length()); // => 3
101
```