JavaScript for QA Problem Set 3

Problem Set

Problem 1: Sum of Values Inside Objects within an Array

```
You have an array of objects, each containing a 'price
    ' and a 'quantity'.
Write a function to calculate the total value (i.e., '
    price * quantity' for each item) and return the sum
    .


Example:
const items = [
  { name: "item1", price: 10, quantity: 2 },
  { name: "item2", price: 5, quantity: 5 },
  { name: "item3", price: 7, quantity: 3 }
];
```

Problem 2: Find an Object by Property Inside an Array

```
Given an array of objects where each object represents
    a product with properties like 'id', 'name', and '
    price',
write a function to find the product with a specific '
    id'.

Example:
const products = [
  { id: 1, name: "Apple", price: 2 },
  { id: 2, name: "Banana", price: 1 },
  { id: 3, name: "Cherry", price: 3 }
];
Input: 2
```

Problem 3: Flatten an Array of Objects (Nested Objects Inside Arrays)

```
Given an array of objects, some of which contain
    nested objects,
write a function that flattens the structure and
    returns a new array where all nested properties are
     at the top level.

Example:
const people = [
  { name: "Alice", address: { city: "New York", zip:
      "10001" }, age: 25 },
  { name: "Bob", address: { city: "Los Angeles", zip:
      "90001" }, age: 30 }
];
```

Problem 4: Extract All Keys and Values from Objects in an Array

```
You have an array of objects, and each object has
    different keys.
Write a function to extract all the keys and their
    corresponding values from the objects and return an
     array of objects
that contain the `key` and `value`.

Example:
const data = [
  { name: "Alice", age: 25 },
  { city: "New York", zip: "10001" },
  { name: "Bob", age: 30, city: "Los Angeles" }
];
```

Problem 5: Remove a Key from Objects in an Array

```
Given an array of objects, remove a specific key from
    each object.

Example:
const items = [
  { name: "item1", price: 10, quantity: 2 },
  { name: "item2", price: 5, quantity: 5 },
  { name: "item3", price: 7, quantity: 3 }
];
Input: 'quantity'
```

Problem 6: Convert an Array of Objects into a Single Object

```
You have an array of objects where each object has a `
   key` and `value`.
Write a function to convert this array into a single
   object.

Example:
const keyValuePairs = [
  { key: "name", value: "Alice" },
  { key: "age", value: 25 },
  { key: "city", value: "New York" }
];
```

Problem 7: Find the Object with the Highest Value Inside an Array of Objects

```
Given an array of objects with properties like `name`
   and `score`,
find the object with the highest score.

Example:
const students = [
  { name: "Alice", score: 85 },
  { name: "Bob", score: 92 },
  { name: "Charlie", score: 88 }
];
Input: Array of students
```