```
const products = [
    {
      id: 101,
      name: "Smartphone",
      description: "A high-end smartphone with a 6.5-inch display,
128GB storage, and a 48MP camera.",
      price: 699.99,
      category: "Electronics",
      inStock: true,
      ratings: 4.5,
    },
    {
      id: 102,
      name: "Laptop",
      description: "A powerful laptop with 16GB RAM, 512GB SSD, and a
15.6-inch display.",
      price: 1199.99,
      category: "Computers",
      inStock: false,
      ratings: 4.7,
    },
    {
      id: 103,
      name: "Wireless Headphones",
      description: "Noise-canceling wireless headphones with a 20-hour
battery life and Bluetooth 5.0.",
      price: 199.99,
      category: "Accessories",
      inStock: true,
      ratings: 4.3,
    },
    {
      id: 104,
      name: "Smartwatch",
      description: "A smartwatch with fitness tracking, heart rate
monitoring, and GPS.",
      price: 149.99,
      category: "Wearables",
      inStock: true,
      ratings: 4.2,
    },
    {
      id: 105,
```

```
      name: "Gaming Console",
      description: "A next-gen gaming console with 4K resolution
support and a powerful GPU.",
      price: 499.99,
      category: "Gaming",
      inStock: true,
      ratings: 4.8,
    }
  ];
```

1.write a function that returns an array of all product names in uppercase.

Code:

```
let x=products.map((a)=>{return a.name.toUpperCase()})
 console.log(x);
```

Output:

[
  'SMARTPHONE',
  'LAPTOP',
  'WIRELESS HEADPHONES',
  'SMARTWATCH',
  'GAMING CONSOLE'
]

2.write a function that logs each product's name and price to the console.

Code:

```
let y=products.forEach((a)=>{ console.log(a.name,a.price)})
```

Output:

Smartphone 699.99
Laptop 1199.99
Wireless Headphones 199.99
Smartwatch 149.99
Gaming Console 499.99

3.write a function that returns an array of products that are in stock.

Code:

```
let z=products.filter((a=>a.inStock==true)).map(a=>a)
console.log(z);
```

Output:

[
  {
    id: 101,
    name: 'Smartphone',

```
    description: 'A high-end smartphone with a 6.5-inch display, 128GB storage, and a 48MP
camera.',
    price: 699.99,
    category: 'Electronics',
    inStock: true,
    ratings: 4.5
  },
  {
    id: 103,
    name: 'Wireless Headphones',
    description: 'Noise-cancelling wireless headphones with a 20-hour battery life and
Bluetooth 5.0.',
    price: 199.99,
    category: 'Accessories',
    inStock: true,
    ratings: 4.3
  },
  {
    id: 104,
    name: 'Smartwatch',
    description: 'A smartwatch with fitness tracking, heart rate monitoring, and GPS.',
    price: 149.99,
    category: 'Wearables',
    inStock: true,
    ratings: 4.2
  },
  {
    id: 105,
    name: 'Gaming Console',
    description: 'A next-gen gaming console with 4K resolution support and a powerful GPU.',
    price: 499.99,
    category: 'Gaming',
    inStock: true,
    ratings: 4.8
  }
]
```

4.write a function that finds the first products with a rating higher than 4.5
Code:

```
let z1=products.filter((a=>a.ratings>4.5)).find(a=>a);
console.log(z1);
```

Output:

```
{
  id: 102,
  name: 'Laptop',
```

```
  description: 'A powerful laptop with 16GB RAM, 512GB SSD, and a 15.6-inch display.',
  price: 1199.99,
  category: 'Computers',
  inStock: false,
  ratings: 4.7
}
```

5.write a function that returns the index of the first product in the “Gaming”
Code:

```
let x1=products.map((a=>a.category=="Gaming")).findIndex(a=>a)
console.log(x1);
```

Output:
4

6.write a function that checks if all products are in stock.

```
let y1=products.every((a=>a.inStock==true))
console.log(y1)
```

Output:
False

7.write a function that checks if any product has a price lower than $200.
Code:

```
let x2=products.map((a)=>{return a.price<200})
console.log(x2);
```

Output:
[false, false, true, true, false]