

main.js



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Output

Clear

```

45 * function getProductByCategory(category) {
46   const result = products.filter((p) => p.category === category);
47   console.log(`\n✅ Products in category: ${category}`);
48   console.log(JSON.stringify(result, null, 2));
49 }
50
51 // ✅ 3. Filter by variant color
52 function getProductByColor(color) {
53   const result = products.filter((p) =>
54     p.variants.some((v) => v.color === color)
55   );
56   console.log(`\n✅ Products with color: ${color}`);
57   console.log(JSON.stringify(result, null, 2));
58 }
59
60 // ✅ Simulated Execution (like Postman calls)
61 console.log(`🚀 Simulating E-commerce Catalog Operations...\n`);
62 getAllProducts();
63 getProductByCategory("Electronics");
64 getProductByColor("Blue");
65

```

🚀 Simulating E-commerce Catalog Operations...

✅ All Products:

```

[
  {
    "_id": "1",
    "name": "Smartphone",
    "price": 600,
    "category": "Electronics",
    "variants": []
  },
  {
    "_id": "2",
    "name": "Running Shoes",
    "price": 120,
    "category": "Footwear",
    "variants": [
      {
        "color": "Red",
        "size": "8",
        "stock": 50
      }
    ]
  }
]

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56   console.log(`\n✅ Products with color: ${color}`);
57   console.log(JSON.stringify(result, null, 2));
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61 console.log("🚀 Simulating E-commerce Catalog Operations...\n");
62 getAllProducts();
63 getProductByCategory("Electronics");
64 getProductByColor("Blue");
65

```

```

    "size": "8",
    "stock": 50
  },
  {
    "color": "Blue",
    "size": "9",
    "stock": 30
  }
],
{
  "_id": "3",
  "name": "T-shirt",
  "price": 25,
  "category": "Apparel",
  "variants": [
    {
      "color": "Black",
      "size": "M",
      "stock": 100
    },
    {
      "color": "Blue",
      "size": "9",
      "stock": 30
    }
  ]
}

```

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46   const result = products.filter((p) => p.category === category);
47   console.log(`\n✅ Products in category: ${category}`);
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53   const result = products.filter((p) =>
54     p.variants.some((v) => v.color === color)
55   );
56   console.log(`\n✅ Products with color: ${color}`);
57   console.log(JSON.stringify(result, null, 2));
58 }
59
60 // ✅ Simulated Execution (like Postman calls)
61 console.log("🚀 Simulating E-commerce Catalog Operations...\n");
62 getAllProducts();
63 getProductByCategory("Electronics");
64 getProductByColor("Blue");
65
```

```
Output
[
  {
    "_id": "3",
    "name": "T-shirt",
    "price": 25,
    "category": "Apparel",
    "variants": [
      {
        "color": "Black",
        "size": "M",
        "stock": 100
      },
      {
        "color": "White",
        "size": "L",
        "stock": 60
      }
    ]
  }
]
```

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```
45 * function getProductByCategory(category) {
46   const result = products.filter((p) => p.category === category);
47   console.log(`\n✅ Products in category: ${category}`);
48   console.log(JSON.stringify(result, null, 2));
49 }
50
51 // ✅ 3. Filter by variant color
52 function getProductByColor(color) {
53   const result = products.filter((p) =>
54     p.variants.some((v) => v.color === color)
55   );
56   console.log(`\n✅ Products with color: ${color}`);
57   console.log(JSON.stringify(result, null, 2));
58 }
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61 console.log("🚀 Simulating E-commerce Catalog Operations...\n");
62 getAllProducts();
63 getProductByCategory("Electronics");
64 getProductByColor("Blue");
65
```

Output

Clear

```
✅ Products in category: Electronics
[
  {
    "_id": "1",
    "name": "Smartphone",
    "price": 600,
    "category": "Electronics",
    "variants": []
  }
]

✅ Products with color: Blue
[
  {
    "_id": "2",
    "name": "Running Shoes",
    "price": 120,
    "category": "Footwear",
    "variants": [
      {
        "color": "Blue",
        "size": "M",
        "stock": 10
      },
      {
        "color": "Blue",
        "size": "L",
        "stock": 5
      }
    ]
  }
]
```

```
main.js
45- function getCategory(category) {
46   const result = products.filter((p) => p.category === category);
47   console.log(`\n✅ Products in category: ${category}`);
48   console.log(JSON.stringify(result, null, 2));
49 }
50
51 // ✅ 3. Filter by variant color
52- function getProductsByColor(color) {
53   const result = products.filter((p) =>
54     p.variants.some((v) => v.color === color)
55   );
56   console.log(`\n✅ Products with color: ${color}`);
57   console.log(JSON.stringify(result, null, 2));
58 }
59
60 // ✅ Simulated Execution (like Postman calls)
61 console.log("🚀 Simulating E-commerce Catalog Operations...\n");
62 getAllProducts();
63 getProductsByCategory("Electronics");
64 getProductsByColor("Blue");
65
```

```
Output
{
  "_id": "2",
  "name": "Running Shoes",
  "price": 120,
  "category": "Footwear",
  "variants": [
    {
      "color": "Red",
      "size": "8",
      "stock": 50
    },
    {
      "color": "Blue",
      "size": "9",
      "stock": 30
    }
  ]
}
```

=== Code Execution Successful ===