

Arrays of Strings + Arrays of Objects

Arrays of Strings

array of strings

```
const songList = [  
  'Piano Sonata No. 3',  
  'Piano Sonata No. 7',  
  'Piano Sonata No. 10',  
];
```


```
console.log(songList);
```



```
[ 'Piano Sonata No. 3',  
  'Piano Sonata No. 7',  
  'Piano Sonata No. 10' ]
```

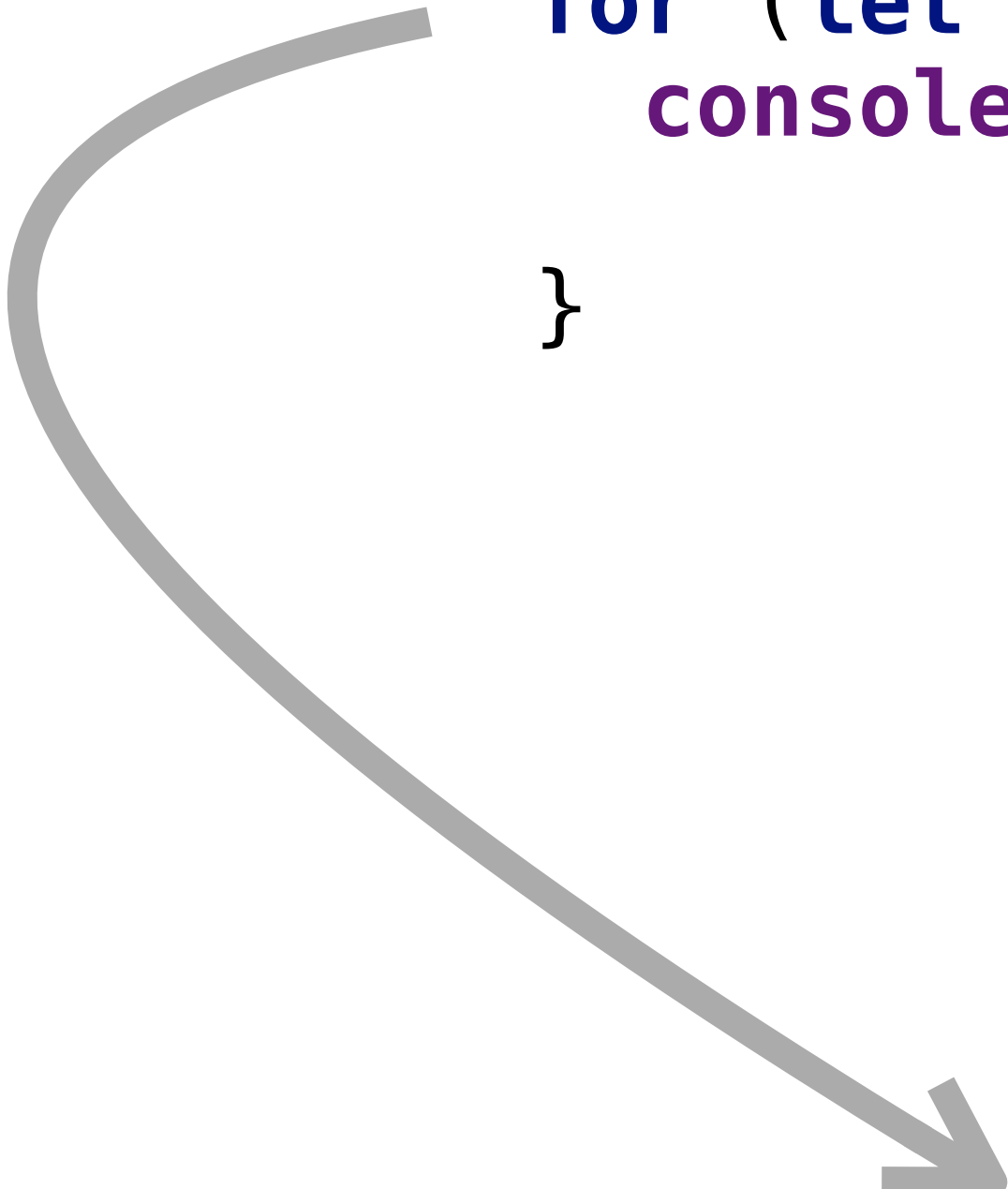
array of strings

```
const songList = [  
  'Piano Sonata No. 3',  
  'Piano Sonata No. 7',  
  'Piano Sonata No. 10',  
];  
  
for (let i = 0; i < songList.length; i++) {  
  console.log('Song ' + i + ':' + songList[i]);  
}
```



Song 0:Piano Sonata No. 3
Song 1:Piano Sonata No. 7
Song 2:Piano Sonata No. 10

```
const songList2 = [  
  'Piano Sonata No. 3',  
  'Beethoven',  
  'Piano Sonata No. 7',  
  'Beethoven',  
  'Piano Sonata No. 10',  
  'Beethoven',  
];  
  
for (let k = 0; k < songList2.length; k=k+2) {  
  console.log('Song ' + k + ': Title: ' + songList2[k] +  
              ': Artist: ' + songList2[k + 1]);  
}
```



Song 0: Title: Piano Sonata No. 3: Artist: Beethoven
Song 2: Title: Piano Sonata No. 7: Artist: Beethoven
Song 4: Title: Piano Sonata No. 10: Artist: Beethoven

Arrays of Objects

array of objects

```
const songList3 = [  
  {  
    title: 'Piano Sonata No. 3',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 7',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 10',  
    artist: 'Beethoven',  
  },  
];
```

Array of 3 objects

array of objects

```
const songList3 = [  
  {  
    title: 'Piano Sonata No. 3',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 7',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 10',  
    artist: 'Beethoven',  
  },  
];
```

single object


```
{  
  title: 'Piano Sonata No. 3',  
  artist: 'Beethoven',  
},
```

Song object:

- title
- artist

```
const songList3 = [  
  {  
    title: 'Piano Sonata No. 3',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 7',  
    artist: 'Beethoven',  
  },  
  {  
    title: 'Piano Sonata No. 10',  
    artist: 'Beethoven',  
  },  
];
```

array of objects

```
for (let j = 0; j < songList3.length; j++) {  
  console.log('Song ' + j + ': Title: ' + songList3[j].title +  
              ': Artist: ' + songList3[j].artist);  
}
```



```
Song 0: Title: Piano Sonata No. 3: Artist: Beethoven  
Song 1: Title: Piano Sonata No. 7: Artist: Beethoven  
Song 2: Title: Piano Sonata No. 10: Artist: Beethoven
```

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
      {
        id: "06",
        title: "Piano Sonata No. 10",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "02",
    title: "Beethoven Concertos",
    songs: [
      {
        id: "07",
        title: "Piano Concerto No. 0",
        artist: "Beethoven",
      },
      {
        id: "08",
        title: "Piano Concerto No. 4",
        artist: "Beethoven",
      },
      {
        id: "09",
        title: "Piano Concerto No. 6",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      }
    ]
  }
]
];
```

array of objects

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
      {
        id: "06",
        title: "Piano Sonata No. 10",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "02",
    title: "Beethoven Concertos",
    songs: [
      {
        id: "07",
        title: "Piano Concerto No. 0",
        artist: "Beethoven",
      },
      {
        id: "08",
        title: "Piano Concerto No. 4",
        artist: "Beethoven",
      },
      {
        id: "09",
        title: "Piano Concerto No. 6",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      }
    ]
  }
]
];
```

array of objects

```
const playlistCollection = [
```

```
{
  id: "01",
  title: "Beethoven Sonatas",
  songs: [
    {
      id: "04",
      title: "Piano Sonata No. 3",
      artist: "Beethoven",
    },
    {
      id: "05",
      title: "Piano Sonata No. 7",
      artist: "Beethoven",
    },
    {
      id: "06",
      title: "Piano Sonata No. 10",
      artist: "Beethoven",
    }
  ]
}
```

```
{
  id: "02",
  title: "Beethoven Concertos",
  songs: [
    {
      id: "07",
      title: "Piano Concerto No. 0",
      artist: "Beethoven",
    },
    {
      id: "08",
      title: "Piano Concerto No. 4",
      artist: "Beethoven",
    },
    {
      id: "09",
      title: "Piano Concerto No. 6",
      artist: "Beethoven",
    }
  ]
}
```

```
{
  id: "03",
  title: "Beethoven Variations",
  songs: [
    {
      id: "10",
      title: "Opus 34: Six variations on a theme in F major",
      artist: "Beethoven",
    },
    {
      id: "11",
      title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
      artist: "Beethoven",
    }
  ]
}
];
```

array of objects

```
const playlistCollection = [
```

```
{  
  id: "01",  
  title: "Beethoven Sonatas",  
  songs: [  
    {  
      id: "04",  
      title: "Piano Sonata No. 3",  
      artist: "Beethoven",  
    },  
    {  
      id: "05",  
      title: "Piano Sonata No. 7",  
      artist: "Beethoven",  
    },  
    {  
      id: "06",  
      title: "Piano Sonata No. 10",  
      artist: "Beethoven",  
    }  
  ]  
}
```

```
{  
  id: "02",  
  title: "Beethoven Concertos",  
  songs: [  
    {  
      id: "07",  
      title: "Piano Concerto No. 0",  
      artist: "Beethoven",  
    },  
    {  
      id: "08",  
      title: "Piano Concerto No. 4",  
      artist: "Beethoven",  
    },  
    {  
      id: "09",  
      title: "Piano Concerto No. 6",  
      artist: "Beethoven",  
    }  
  ]  
}
```

```
{  
  id: "03",  
  title: "Beethoven Variations",  
  songs: [  
    {  
      id: "10",  
      title: "Opus 34: Six variations on a theme in F major",  
      artist: "Beethoven",  
    },  
    {  
      id: "11",  
      title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",  
      artist: "Beethoven",  
    }  
  ]  
}
```

array of objects

```
];
```

```
{
  id: "01",
  title: "Beethoven Sonatas",
  songs: [
    {
      id: "04",
      title: "Piano Sonata No. 3",
      artist: "Beethoven",
    },
    {
      id: "05",
      title: "Piano Sonata No. 7",
      artist: "Beethoven",
    },
    {
      id: "06",
      title: "Piano Sonata No. 10",
      artist: "Beethoven",
    }
  ]
}
```

Each object consists of

- id
- title
- songs

```
{
  id: "01",
  title: "Beethoven Sonatas",
  songs: [
    {
      id: "04",
      title: "Piano Sonata No. 3",
      artist: "Beethoven",
    },
    {
      id: "05",
      title: "Piano Sonata No. 7",
      artist: "Beethoven",
    },
    {
      id: "06",
      title: "Piano Sonata No. 10",
      artist: "Beethoven",
    }
  ]
}
```

Each object consists of

- id
- title
- songs - array of objects


```
{  
  id: "04",  
  title: "Piano Sonata No. 3",  
  artist: "Beethoven",  
},
```

Song

- id
- title
- artist

```
const playlistCollection = [  
  ...  
];  
  
console.log (playlistCollection);
```



```
const playlistCollection = [  
  {  
    id: "01",  
    title: "Beethoven Sonatas",  
    songs: [  
      {  
        id: "04",  
        title: "Piano Sonata No. 3",  
        artist: "Beethoven",  
      },  
      {  
        id: "05",  
        title: "Piano Sonata No. 7",  
        artist: "Beethoven",  
      },  
      {  
        id: "06",  
        title: "Piano Sonata No. 10",  
        artist: "Beethoven",  
      }  
    ]  
  },  
  {  
    id: "02",  
    title: "Beethoven Concertos",  
    songs: [  
      {  
        id: "07",  
        title: "Piano Concerto No. 0",  
        artist: "Beethoven",  
      },  
      {  
        id: "08",  
        title: "Piano Concerto No. 4",  
        artist: "Beethoven",  
      },  
      {  
        id: "09",  
        title: "Piano Concerto No. 6",  
        artist: "Beethoven",  
      }  
    ]  
  },  
  {  
    id: "03",  
    title: "Beethoven Variations",  
    songs: [  
      {  
        id: "10",  
        title: "Opus 34: Six variations on a theme in F major",  
        artist: "Beethoven",  
      },  
      {  
        id: "11",  
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",  
        artist: "Beethoven",  
      }  
    ]  
  }  
];
```

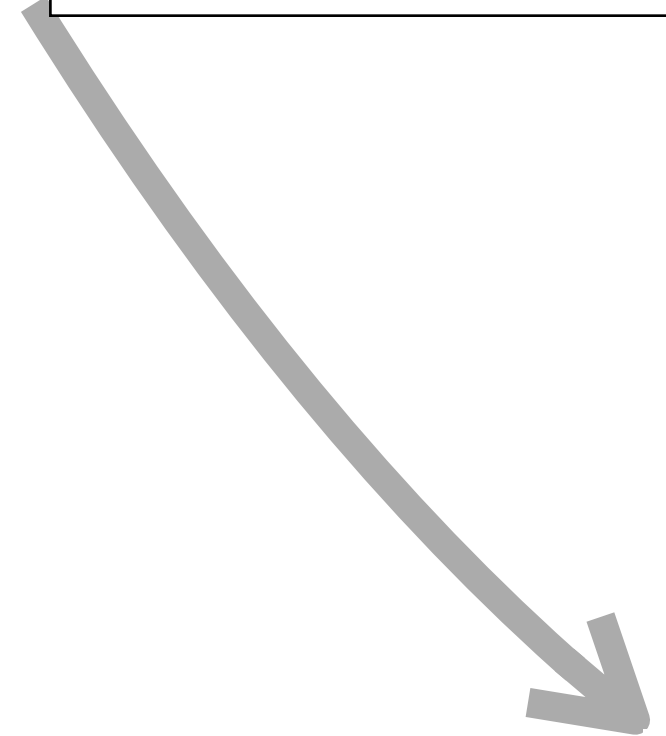
▶ [Object, Object, Object]

chrome console

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
      {
        id: "06",
        title: "Piano Sonata No. 10",
        artist: "Beethoven",
      },
    ],
  },
  {
    id: "02",
    title: "Beethoven Concertos",
    songs: [
      {
        id: "07",
        title: "Piano Concerto No. 0",
        artist: "Beethoven",
      },
      {
        id: "08",
        title: "Piano Concerto No. 4",
        artist: "Beethoven",
      },
      {
        id: "09",
        title: "Piano Concerto No. 6",
        artist: "Beethoven",
      },
    ],
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      },
    ],
  },
];
```

```
const playlistCollection = [
  ...
];

for (let i = 0; i < playlistCollection.length; i++) {
  console.log(playlistCollection[i]);
}
```



- ▶ Object {id: "01", title: "Beethoven Sonatas", songs: Array[3]}

- ▶ Object {id: "02", title: "Beethoven Concertos", songs: Array[3]}

- ▶ Object {id: "03", title: "Beethoven Variations", songs: Array[2]}

chrome console

```
const playlistCollection = [
  ...
];

for (let i = 0; i < playlistCollection.length; i++) {
  console.log(playlistCollection[i].title)
}
```

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
      {
        id: "06",
        title: "Piano Sonata No. 10",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      }
    ]
  }
];
```



Beethoven Sonatas
Beethoven Concertos
Beethoven Variations

chrome console

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
    ],
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
      },
    ],
  },
  {
    id: "06",
    title: "Beethoven Concertos",
    songs: [
      {
        id: "07",
        title: "Piano Concerto No. 0",
        artist: "Beethoven",
      },
      {
        id: "08",
        title: "Piano Concerto No. 4",
        artist: "Beethoven",
      },
      {
        id: "09",
        title: "Piano Concerto No. 6",
        artist: "Beethoven",
      },
    ],
  },
  {
    id: "11",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      },
    ],
  },
];
```

```
const playlistCollection = [
  ...
];

for (let i = 0; i < playlistCollection.length; i++) {
  console.log(playlistCollection[i].title)
  for (let j=0; j < playlistCollection[i].songs.length; j++) {
    console.log(playlistCollection[i].songs[j]);
  }
}
```

```
id: "03",
title: "Beethoven Variations",
songs: [
  {
    id: "10",
    title: "Opus 34: Six variations on a theme in F major",
  },
]
```

```
Beethoven Sonatas
▶ Object {id: "04", title: "Piano Sonata No. 3", artist: "Beethoven"}
▶ Object {id: "05", title: "Piano Sonata No. 7", artist: "Beethoven"}
▶ Object {id: "06", title: "Piano Sonata No. 10", artist: "Beethoven"}
Beethoven Concertos
▶ Object {id: "07", title: "Piano Concerto No. 0", artist: "Beethoven"}
▶ Object {id: "08", title: "Piano Concerto No. 4", artist: "Beethoven"}
▶ Object {id: "09", title: "Piano Concerto No. 6", artist: "Beethoven"}
Beethoven Variations
▶ Object {id: "10", title: "Opus 34: Six variations on a theme in F major", artist: "Beethoven"}
▶ Object {id: "11", title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major", artist: "Beethoven"}
```

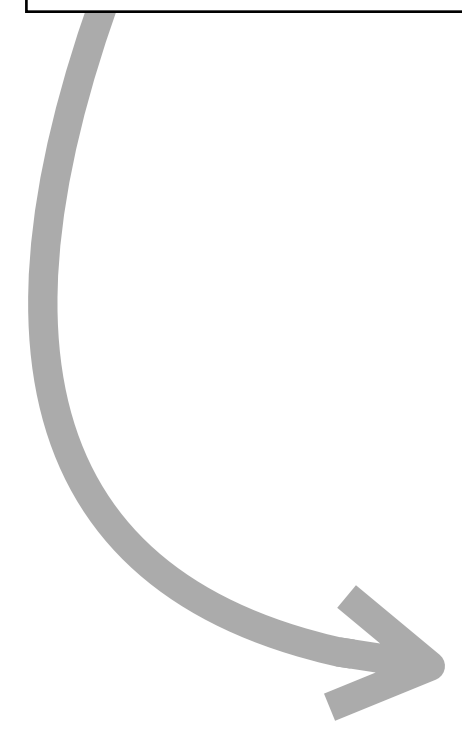


chrome console

```
const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
    ],
  },
  // ...
];
```

```
const playlistCollection = [
  // ...
];

for (let i = 0; i < playlistCollection.length; i++) {
  console.log(playlistCollection[i].title)
  for (let j=0; j < playlistCollection[i].songs.length; j++) {
    console.log(playlistCollection[i].songs[j].title);
    console.log(playlistCollection[i].songs[j].artist);
  }
}
```



Beethoven Sonatas	Beethoven Sonatas
Piano Sonata No. 3	Piano Sonata No. 3",
Beethoven	Beethoven
Piano Sonata No. 7	Opus 34: Six variations on a theme in F major",
Beethoven	Beethoven
Piano Sonata No. 10	Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
Beethoven	Beethoven
Beethoven Concertos	Beethoven Concertos
Piano Concerto No. 0	Piano Concerto No. 0
Beethoven	Beethoven
Piano Concerto No. 4	Piano Concerto No. 4
Beethoven	Beethoven
Piano Concerto No. 6	Piano Concerto No. 6
Beethoven	Beethoven
Beethoven Variations	Beethoven Variations
Opus 34: Six variations on a theme in F major	Opus 34: Six variations on a theme in F major
Beethoven	Beethoven
Opus 120: Thirty-three variations on a waltz by Diabelli in C major	Opus 120: Thirty-three variations on a waltz by Diabelli in C major
Beethoven	Beethoven

```

const playlistCollection = [
  {
    id: "01",
    title: "Beethoven Sonatas",
    songs: [
      {
        id: "04",
        title: "Piano Sonata No. 3",
        artist: "Beethoven",
      },
      {
        id: "05",
        title: "Piano Sonata No. 7",
        artist: "Beethoven",
      },
      {
        id: "06",
        title: "Piano Sonata No. 10",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "02",
    title: "Beethoven Concertos",
    songs: [
      {
        id: "07",
        title: "Piano Concerto No. 0",
        artist: "Beethoven",
      },
      {
        id: "08",
        title: "Piano Concerto No. 4",
        artist: "Beethoven",
      },
      {
        id: "09",
        title: "Piano Concerto No. 6",
        artist: "Beethoven",
      }
    ]
  },
  {
    id: "03",
    title: "Beethoven Variations",
    songs: [
      {
        id: "10",
        title: "Opus 34: Six variations on a theme in F major",
        artist: "Beethoven",
      },
      {
        id: "11",
        title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major",
        artist: "Beethoven",
      }
    ]
  }
];

```

```

▼ Array[3] 1
  ▼ 0: Object
    id: "01"
    ▼ songs: Array[3]
      ▼ 0: Object
        artist: "Beethoven"
        id: "04"
        title: "Piano Sonata No. 3"
        ▶ __proto__: Object
      ▼ 1: Object
        artist: "Beethoven"
        id: "05"
        title: "Piano Sonata No. 7"
        ▶ __proto__: Object
      ▼ 2: Object
        artist: "Beethoven"
        id: "06"
        title: "Piano Sonata No. 10"
        ▶ __proto__: Object
        length: 3
        ▶ __proto__: Array[0]
        title: "Beethoven Sonatas"
        ▶ __proto__: Object
    ▼ 1: Object
      id: "02"
      ▼ songs: Array[3]
        ▼ 0: Object
          artist: "Beethoven"
          id: "07"
          title: "Piano Concerto No. 0"
          ▶ __proto__: Object
        ▼ 1: Object
          artist: "Beethoven"
          id: "08"
          title: "Piano Concerto No. 4"
          ▶ __proto__: Object
        ▼ 2: Object
          artist: "Beethoven"
          id: "09"
          title: "Piano Concerto No. 6"
          ▶ __proto__: Object
          length: 3
          ▶ __proto__: Array[0]
          title: "Beethoven Concertos"
          ▶ __proto__: Object
    ▼ 2: Object
      id: "03"
      ▼ songs: Array[2]
        ▼ 0: Object
          artist: "Beethoven"
          id: "10"
          title: "Opus 34: Six variations on a theme in F major"
          ▶ __proto__: Object
        ▼ 1: Object
          artist: "Beethoven"
          id: "11"
          title: "Opus 120: Thirty-three variations on a waltz by Diabelli in C major"
          ▶ __proto__: Object
          length: 2
          ▶ __proto__: Array[0]
          title: "Beethoven Variations"
          ▶ __proto__: Object
        length: 3
        ▶ __proto__: Array[0]

```