

NAME	Ajay Singh Pargai
UID	23BCS11963
CLASS	622-A

Practice 3 – React :

Title

Person Class Hierarchy with Student and Teacher Subclasses

Objective

Understand and apply the concept of inheritance in JavaScript (ES6 classes) by creating a base class and extending it into specialized subclasses. This helps build strong foundational skills in object-oriented programming within a modern JavaScript context.

Task Description

Create a base Person class that has properties like name and age, and a method to display basic information. Then, create two subclasses: Student and Teacher, each extending Person. The Student class should include an additional property like grade or course, and the Teacher class should include a property like subject or department. Each subclass should override or extend methods as needed to display complete details. Finally, create instances of both subclasses and demonstrate calling their methods to show how inheritance and method overriding work.

Code

```
// Base Class: Person class
```

```
Person {  
  constructor(name, age) {  
    this.name = name;  
    this.age = age;  
  }  
  
  // Method to display basic info  
  displayInfo() {  
    return `Name: ${this.name}, Age: ${this.age}`;  
  }  
}
```

```
// Subclass: Student (extends Person) class  
Student extends Person {  
  constructor(name, age, course) {  
    super(name, age); // Call parent constructor  
    this.course = course; // Additional property  
  }  
  
  // Overriding displayInfo to add course details  
  displayInfo() {
```

```
    return `${super.displayInfo()}, Course: ${this.course}`;  
  }  
}
```

```
// Subclass: Teacher (extends Person)  
class Teacher extends Person {  
  constructor(name, age, subject) {  
    super(name, age);  
    this.subject = subject; // Additional property  
  }  
}
```

```
// Overriding displayInfo to add subject details  
displayInfo() {  
  return `${super.displayInfo()}, Subject: ${this.subject}`;  
}  
}
```

```
// --- Demonstration ---
```

```
// Create a Student instance  
const student1 = new Student("Alice", 20, "Computer Science");
```

```
// Create a Teacher instance  
const teacher1 = new Teacher("Mr. Smith", 45, "Mathematics");
```


```
// Call their displayInfo methods
console.log(student1.displayInfo());

// Output: Name: Alice, Age: 20, Course: Computer Science

console.log(teacher1.displayInfo());

// Output: Name: Mr. Smith, Age: 45, Subject: Mathematics
```

Output-



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Run `npm audit` for details.

> nodejs@1.0.0 dev
> nodemon src/app.js

[nodemon] 3.1.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node src/app.js`
Name: Alice, Age: 20, Course: Computer Science
Name: Mr. Smith, Age: 45, Subject: Mathematics
[nodemon] clean exit - waiting for changes before restart
npm i && npm run dev
```