

### Solution 1:

```
function Person(name, age) {  
  this.name = name;  
  this.age = age;  
  
  this.sayHello = function() {  
    console.log(`Hello, my name is ${this.name} and I am ${this.age} years old.`);  
  };  
}
```

// Example usage:

```
const person1 = new Person('Kiran', 30);  
person1.sayHello();
```

```
const person2 = new Person('Mala', 25);  
person2.sayHello();
```

### Solution 2:

```
function Person(name, age) {  
  this.name = name;  
  this.age = age;  
}
```

```
Person.prototype.sayHello = function() {  
  console.log(`Hello, my name is ${this.name} and I am ${this.age} years old.`);  
};
```

```
function Employee(name, age, designation) {  
  // Call the Person constructor  
  Person.call(this, name, age);  
  this.designation = designation;  
}
```

```
Employee.prototype = Object.create(Person.prototype);  
Employee.prototype.constructor = Employee;
```

```
Employee.prototype.getDetails = function() {  
  console.log(`Name: ${this.name}, Age: ${this.age}, Designation: ${this.designation}`);  
};
```

// Example usage:

```
const employee1 = new Employee('Alice', 30, 'Software Engineer');  
employee1.sayHello();  
employee1.getDetails();
```

```
const employee2 = new Employee('Bob', 25, 'Product Manager');  
employee2.sayHello();  
employee2.getDetails();
```

### Solution 3:

```
function Calculator() {  
  this.value = 0;  
}
```

```
Calculator.prototype.add = function(num) {  
  this.value += num;  
  return this; // Return the Calculator instance for chaining  
};
```

```
Calculator.prototype.subtract = function(num) {  
  this.value -= num;  
  return this; // Return the Calculator instance for chaining  
};
```

```
Calculator.prototype.multiply = function(num) {  
  this.value *= num;  
  return this; // Return the Calculator instance for chaining  
};
```

```
Calculator.prototype.divide = function(num) {  
  if (num !== 0) {  
    this.value /= num;  
  }  
  else {  
    console.error('Cannot divide by zero.');  }  
  return this;  
};
```

```
Calculator.prototype.getValue = function() {  
  return this.value;  
};
```

// Example usage:

```
const calc = new Calculator();  
  
const result = calc.add(10)  
  .subtract(2)  
  .multiply(3)  
  .divide(2)  
  .getValue();  
  
console.log(result);
```

#### Solution 4:

```
class Shape {
  draw() {
    console.log('Drawing a shape.');
```

  

```
  }
}
class Circle extends Shape {
  draw() {
    console.log('Drawing a circle.');
```

  

```
  }
}

class Rectangle extends Shape {
  draw() {
    console.log('Drawing a rectangle.');
```

  

```
  }
}

function renderShape(shape) {
  shape.draw();
}

const circle = new Circle();
const rectangle = new Rectangle();

renderShape(circle);
renderShape(rectangle);
```

#### Solution 5:

```
Array.prototype.customIncludes = function(element, fromIndex = 0) {
  fromIndex = Math.max(fromIndex, 0);

  for (let i = fromIndex; i < this.length; i++) {
    if (this[i] === element) {
      return true;
    }
  }
  return false;
};
```

// Example usage:

```
const arr = [1, 2, 3, 4, 5];

console.log(arr.customIncludes(3));
console.log(arr.customIncludes(6));
console.log(arr.customIncludes(2, 2));
```

```
console.log(arr.customIncludes(3, 1));
```