

# Design Patterns

## W6A1

**Topic: -** Implement Prototype Design Pattern

**Description: -** In this design pattern we have a prototype from which all other objects are made. They can also have other custom values but they must have values declared in prototype.

**Code : -**

```
class Car {
  constructor(name, model, wheels) {
    this.name = name
    this.model = model
    this.wheels = wheels
  }
  start() { console.log('Engine Started') }
}

class CarPrototype {
  constructor(proto) {
    this.clone = () => {
      const newCar = new Car(proto.name, proto.model, proto.wheels)
      return newCar
    }
  }
}

const carHandler = (function() {
  return {
    createMercedes2022: () => {
      const mercedes2022Proto = new Car('Mercedes Benz 22', 2022, 4)
      const prototype = new CarPrototype(mercedes2022Proto)
      return prototype.clone()
    },
    createBharatBenzTruck: () => {
      const bharaBenzTruckProto = new Car('Bharat Benz', 2010, 8)
      const prototype = new CarPrototype(bharaBenzTruckProto)
      return prototype.clone()
    }
  }
})()
```

```
const mercedes = carHandler.createMercedes2022()
const bharatBenz = carHandler.createBharatBenzTruck()
```

```
console.log('Prototype Objects: -')
console.log()
```

```
console.log(mercedes)
console.log(bharatBenz)
```

```
// Adding more object values
```

```
mercedes.topSpeed = '318 Km/h'
```

```
console.log()
```

```
console.log('After adding top speed value: -')
console.log()
console.log(mercedes)
```

### Output : -

```
Prototype Objects: -

Car { name: 'Mercedes Benz 22', model: 2022, wheels: 4 }
Car { name: 'Bharat Benz', model: 2010, wheels: 8 }

After adding top speed value: -

Car {
  name: 'Mercedes Benz 22',
  model: 2022,
  wheels: 4,
  topSpeed: '318 Km/h'
}
```