



RESEARCH ASSIGNMENT Week-05-Object-Oriented-Programming

Prompts

1. What are the four pillars of Object-Oriented Programming? Explain each pillar.
2. What is the relationship between a Class and an Object?
3. What is an exception and what are best practices for handling them?
4. What is your favorite thing you learned this week?

Student Answers.

1. What are the four pillars of Object-Oriented Programming? Explain each pillar.

The four pillars of Object-Oriented Programming are the following:

A Abstraction*

B Encapsulation*

C Inheritance*

D Polymorphism.*

A Abstraction:*

Is embedding or hiding the functionality of a code in word or keyword that can be used a method and/or a function in a line of code. This makes it easier to use for the developer who does not have to create a method from scratch.

B Encapsulation:*

Is the process used to create an abstract method or a function.

C Inheritance:*

Is when an object in JavaScript acquires the properties of another object. The following example from <https://medium.com/@millergonzalez/javascript-inheritance-and-object-oriented-programming-d8740f0eac30>

Illustrates what an Inheritance is.



```
function Cat(breed, weight, age, name){  
  Animal.call(this, age, name); this.breed = breed;  
  this.weight = weight;  
  this.eat = function(){  
    this.weight++;  
    console.log("I'm "+  
      this.name +  
      " and I have increased my weight to "  
      + this.weight);  
  }  
}  
Cat.prototype = Object.create(Animal.prototype);  
Cat.prototype.constructor = Cat;  
let myCat = new Cat('bengala', 5, 5, 'Simba');  
console.log(myCat);
```

D* Polymorphism:

*Polymorphism in Object-Oriented programming is when a piece of code or object can be used in different form because of its Inheritance functionality. To know if an object is polymorphic, you must test with the keyword **instanceOf**.*

2. What is the relationship between a Class and an Object?

A Class is a detailed template of an Object. In JavaScript Object-Oriented programming, we create classes and define them as place holder for an Object.

3. What is an exception and what are best practices for handling them?

An exception is the presence of an incorrect or erroneous condition which will need to be located and corrected. The best practice of handling them is by using a try ... catch statement to identify the anomaly and perform a certain task while the rest of the program continues to work.

4. Learning Object oriented Programming this week was an intimidating experience but quickly became thrilling. It is the most exciting thing I have learned so far.



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