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*](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.*

1. 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.*

1. 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.*

1. *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.*