1. Explain each of the following in full and complete sentences with an example:

Polymorphism:  
Polymorphism means that an object can have many forms. Such as a class like car and specific objects ford behave differently

*Example*:

class car{  
 public void sound() {  
 System.out.println("this is a car");

class Dog extends Animal {  
 public void sound() {  
 System.out.println("this is a ford");

Method Overloading:  
Method overloading lets you use the same method name but with different parameters.

class Example   
 public int add(int a, int b)   
 return a + b;

public double add(double a, double b)   
 return a + b;

Delegation:  
Delegation is when one object hands off a task to another object to do the work.

class Printer {  
 public void print(String text) {  
 System.out.println(text);

class Document {  
 Printer printer = new Printer();

public void print() {  
 printer.print("Printing the document");

The “this” reference:  
It's used to avoid confusion when variables and parameters have the same name.

class MyClass {

public MyClass(int x) {

Const Correctness:

you can use final to make sure a value or method can't be changed.  
  
 public final int value = 10; // Constant value

2. An api is a set of tools that allow programs to talk to each other.

MusicalInstrument’s API would be the methods and functions you can use to interact with the values

3. The Java String class is part of the java.lang package.

4. java.lang is automatically imported in Java, so you don’t need to manually import it.

1. The keyword is final.
2. Unit testing. It checks if small parts of the code work properly.