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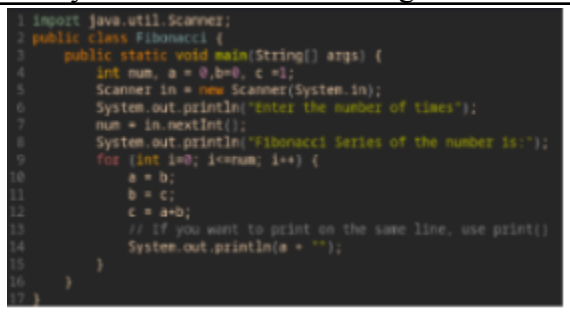
Career Services Assignment 3 – Java Flash Cards

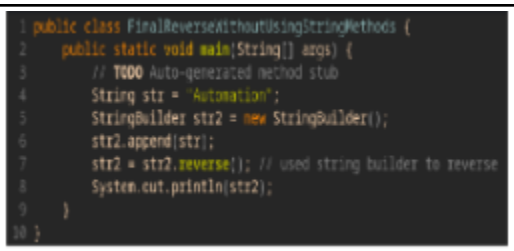
Instructions: Research common Java interview questions online and create 20 flash cards from the information you find. Study your flash cards regularly to better prepare for interviews. Fill out the table below with the information you put on each of your flash cards.

Front of Card	Back of Card
Why do people call Java the "platform-independent programming language"?	"One of the primary purposes for Java code was to create a programming language that developers could use across multiple platforms without having to change the source code for each platform. Platform independence means the execution of your program doesn't depend on the operating system being used. Earlier programming languages, such as C and C++, require developers to compile separate source code for every operating system they run it on.
How do you reverse a string in Java?	There's no reverse utility provided in Java. Hiring managers might ask this question to determine your knowledge of Java and your problem-solving skills. You can create a character array from the string and iterate it from the end to the beginning. You can append the characters to a string builder and finally return the reversed string.
Can you write a Java program for the Fibonacci series for me?	

```
import java.util.Scanner;
public class Fibonacci {
    public static void main(String[] args) {
        int num, a = 0,b=0, c =1;
        Scanner in = new Scanner(System.in);
        System.out.println("Enter the number of times");
        num = in.nextInt();
        System.out.println("Fibonacci Series of the number is:");
        for (int i=0; i<=num; i++) {
            a = b;
            b = c;
            c = a+b;
            // If you want to print on the same line, use print()
            System.out.println(a + "");
        }
    }
}
```

PROMINEO TECH

Career Services Assignment 3 – Java Flash Cards

Write a Java program to reverse a string without using string inbuilt function.	
What are constructors in Java? Are there copy constructors in Java? What is constructor chaining?	A constructor initializes a newly created object. Java supports copy constructor, but it's a requirement to write your own code to do it. Constructor chaining is calling a constructor from another constructor. However, you cannot call a sub-class constructor using a super-class constructor."
Can you overload or override static methods in Java?	You cannot override static methods in Java and you can only overload static methods in Java if the methods take different parameters.
What's the difference between implementing and extending classes in Java?	Impletmenting means you are using the elements of a Java Interface in your class. Extends means that you are creating a subclass of the base class you are extending. You can only extend one class in your child class, but you can implement as many interfaces as you would like.
Explain how to handle errors using try-catch blocks in your code.	You can use try-catch blocks in your code, as long as it's runnable, to help determine where and error exists. "Trying" the code will run through the sequence and if an error occurs, "Catch" will store the error in an Object. Which will have the Error name and also the the message, which is commonly used with .stack to give information about the error.
What are the principle concepts of OOPS?	A-PIE(Abstraction, Polymorphism, Inheritance, Encapsulation)
What is Dynamic Binding?	Binding refers to the linking of a procedure call to the code to be executed in response to the call. Dynamic binding (also known as late binding) means that the code associated with

Career Services Assignment 3 – Java Flash Cards

	a given procedure call is not known until the time of the call at run-time. It is associated with polymorphism and inheritance.
What is the difference between Abstraction and Encapsulation?	Abstraction focuses on the outside view of an object (i.e. the interface) Encapsulation (information hiding) prevents clients from seeing its inside view, where the behavior of the abstraction is implemented. -Abstraction solves the problem on the design side while Encapsulation is the Implementation. -Encapsulation is the deliverables of Abstraction. Encapsulation barely talks about grouping up your abstraction to suit the developer's needs.
What is Polymorphism?	Polymorphism is briefly described as “one interface, many implementations.” Polymorphism usage to something in different contexts – specifically, to allow an entity such as a variable, a function, or an object to have more than one form.
What is Super?	Super is a keyword that is used to access the method or member variables from the superclass. If a method hides one of the member variables in its superclass, the method can refer to the hidden variable through the use of the super keyword. In the same way, if a method overrides one of the methods in its superclass, the method can invoke the overridden method through the use of the super keyword.
How do you prevent a method from being overridden?	To prevent a specific method from being overridden in a subclass, use the final modifier on the method declaration, which

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Career Services Assignment 3 – Java Flash Cards

	means “this is the final implementation of this method”, the end of its inheritance hierarchy.

Write a Java Program to reverse a string without using String inbuilt function reverse().	public class ReverseNoInbuiltFunction {
	  public static void main(String[] args) {
	  String str = "Automation";
	  char chars[] = str.toCharArray();
	for(int i= chars.length-1; i >= 0; i--) {
	  System.out.print(chars[i]);
	  }
	  }
	}

Write a Java Program to swap two numbers using the third variable.	public class SwapTwoNumbers {
	  public static void main(String[] args) {
	  int x = 5;
	  int y = 6;
	  int temp;
	System.out.println("Before Swapping" + x + y);
	  temp = x;
	  x = y;
	  y = temp;
	System.out.println("After Swapping" + x + y);
	  }
	}

Write a Java Program to swap two numbers without using the third variable.	class SwapTwoNumberWithoutThirdVariable {
	  public static void main(String args[])
	  {
	  int x = 5;
	  int y = 6;
	  System.out.println("Before Swapping" + x + y);
	
	  x = x + y;
	  y = x - y;
	  x = x - y;

Career Services Assignment 3 – Java Flash Cards

	System.out.println("After Swapping without third variable" + x + y); } }
What is the difference between abstract class and interface ?	An interface can have only abstract methods. Abstract class can have concrete and abstract methods. The abstract class can have public, private, protected or default variables and also constants. In interface the variable is by default public final. In nutshell the interface doesn't have any variables it only has constants.
What is the difference between equals() and == ?	== operator is used to compare the references of the objects. public boolean equals(Object o) is the method provided by the Object class. The default implementation uses == operator to compare two objects which mean by default the objects address are compared. But since the method can be overriden like for String class. equals() method can be used to compare the values of two objects.
What is the difference between a local variable and an instance variable?	A local variable is typically used inside a method, constructor, or a block and has only local scope. Thus, this variable can be used only within the scope of a block. The best benefit of having a local variable is that other methods in the class won't be even aware of that variable. Whereas, an instance variable in Java, is a variable which is bounded to its object itself. These variables are declared within a class, but outside a method. Every object of that class will create it's own copy of the variable while using it. Thus, any changes made to the variable won't reflect in any other instances of that class and will be bound to that particular instance only.

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