Java Assignment: Abstract Class and Methods

Introduction

In Java, an abstract class is a class that cannot be instantiated and may contain abstract methods (methods without a body). Abstract classes are used to provide a base for subclasses to implement specific functionalities.

Below is an example of an abstract class and its implementation:

Example Code

```
abstract class Payment {
    abstract void pay(int a);
    void succes(){
        System.out.println("payment done");
    }
}

class UpiPayment extends Payment {
    void pay(int a){
        System.out.println("pay via Upi " + a);
    }
}

class NetBanking extends Payment {
    void pay(int b){
        System.out.println("pay via netbanking " + b);
    }
}

class Hello {
    public static void main(String[] args) {
        Payment obj = new UpiPayment();
        obj.pay(25000);
        obj.succes();

        Payment obj1 = new NetBanking();
        obj1.pay(510000);
        obj1.succes();
    }
}
```

Assignment Questions

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Practice Questions:

1. Create an abstract class 'Shape' with an abstract method 'area()'. Implement two subclasses 'Circle' and 'Rectangle'.
2. Create an abstract class 'Animal' with method 'sound()'. Create classes 'Dog' and 'Cat' that extend it and implement the sound method.