

Question 1 [10 Points]

Implement the **Savings** class derived from Account class so that it generates the given output.

```
//PARENT CLASS
class Account {
    private String accountNumber;
    protected double balance;
    protected String accountType;

    public Account(String accountNumber, double balance) {
        this.accountNumber = accountNumber;
        this.balance = balance;
        this.accountType = "General";
    };

    public String toString() {
        String s = "Account Type: " + accountType + "\n";
        s += "Account Number: " + accountNumber + ", Balance: $" + String.format("%.2f", balance) +
"\n";
        return s;
    }

    public void deposit(double amount) {
        balance += amount;
        System.out.printf("Deposited %.2f. New Balance: %.2f\n", amount, balance);
    }

    public void withdraw(double amount) {
        if (balance >= amount) {
            balance -= amount;
            System.out.printf("Withdrew %.2f. New Balance: %.2f\n", amount, balance);
        } else {
            System.out.println("Insufficient funds.");
        }
    }
}
}
```

DRIVER CODE

```
public class AccountTester {
    public static void main(String[] args) {
        Savings s1 = new Savings("Savings", "SA123", 1000,
0.05, 500);
        System.out.println(s1);
        System.out.println("-----1-----");
        s1.deposit(400);
        System.out.println("-----2-----");
        s1.withdraw(1000);
        System.out.println("-----3-----");
        s1.withdraw(800);
        System.out.println("-----4-----");
        s1.applyInterest();
        System.out.println("-----5-----");
        System.out.println(s1);
    }
}
```

OUTPUT

```
Account Type: Savings
Account Number: SA123, Balance: $1000.00
Interest Rate: 0.05, Minimum limit: $500.0
-----1-----
Deposited $400.00. New Balance: $1400.00
-----2-----
Insufficient funds
-----3-----
Withdrew $800.00. New Balance: $600.00
-----4-----
Applied interest: $30.00. New Balance:
$630.00
-----5-----
Account Type: Savings
Account Number: SA123, Balance: $630.00
Interest Rate: 0.05, Minimum limit: $500.0
```