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CB.SC.U4CYS23036

POPL Lab - 8

Code:

```
# [derive(Debug)]
enum AccountType {
    Savings,
    Current,
}

# [derive(Debug)]
struct Account {
    id: u32,
    holder: String,
    balance: f64,
    acc_type: AccountType,
}

impl Account {
    fn new(id: u32, holder: String, balance: f64, acc_type: AccountType) -> Self {
        Account {
            id,
            holder,
            balance,
            acc_type,
        }
    }
}
```

```
fn display_account_details(&mut self) {
    match self.acc_type {
        AccountType::Savings => {
            println!("--- Savings Account ---");
            let interest = self.balance * 0.05;
            self.balance += interest;
            println!("Interest of 5% ${:.2} applied.", interest);
        }
        AccountType::Current => {
            println!("--- Current Account ---");
            if self.balance < 1000.0 {
                self.balance -= 100.0;
                println!("Service charge of $100.00 applied due to low balance.");
            } else {
                println!("No service charges applied.");
            }
        }
        _ => println!("Holder: {}\nUpdated Balance: ${:.2}\n", self.holder, self.balance);
    }
}

#[derive(Debug)]
struct Bank {
    accounts: Vec<Account>|,
}

impl Bank {
    fn new() -> Self {
        Bank { accounts: vec![] }
    }
}
```

```
fn add_account(&mut self, account: Account) {
    self.accounts.push(account);
}

fn process_accounts(&mut self) {
    for account in &mut self.accounts {
        account.display_account_details();
    }
}

fn main() {
    let mut bank = Bank::new();

    let savings = Account::new(1, String::from("Alice"), 1000.0,
AccountType::Savings);

    let current = Account::new(2, String::from("Bob"), 500.0,
AccountType::Current);

    bank.add_account(savings);
    bank.add_account(current);

    bank.process_accounts();
}
```

Output:

```
warning: 1 warning emitted
```

```
--- Savings Account ---  
Interest of 5% ($50.00) applied.  
Holder: Alice  
Updated Balance: $1050.00
```

```
--- Current Account ---  
Service charge of $100.00 applied due to low balance.  
Holder: Bob  
Updated Balance: $400.00
```

```
praneesh@ShadowEternity ~/Praneesh/Academics/Sem6/POPL/Rust/Lab-8 <main•>
```