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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>
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