**BCT Assignment 3**

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**Smart Contract for a Bank Account on a Test Network**

**Code:**

**// SPDX-License-Identifier: MIT**

**pragma solidity ^0.8.0;**

**contract Bank {**

**// Mapping from user address to their balance**

**mapping(address => uint256) private balances;**

**// Deposit money into your account**

**function deposit() public payable {**

**require(msg.value > 0, "Deposit must be greater than 0");**

**balances[msg.sender] += msg.value;**

**}**

**// Withdraw money from your account**

**function withdraw(uint256 amount) public {**

**require(amount > 0, "Withdrawal must be greater than 0");**

**require(balances[msg.sender] >= amount, "Insufficient balance");**

**// Deduct balance first (checks-effects-interactions pattern)**

**balances[msg.sender] -= amount;**

**// Transfer Ether back to the user**

**payable(msg.sender).transfer(amount);**

**}**

**// Show your current balance**

**function showBalance() public view returns (uint256) {**

**return balances[msg.sender];**

**}**

**}**

**Output:**

1. **Upload Code on Remix IDE**

**A screenshot of a computer program

AI-generated content may be incorrect.**

1. **Connect MetaMask Wallet**

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AI-generated content may be incorrect.**

1. **Deploy Contract**

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AI-generated content may be incorrect.**

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