```
import random

class User:
    def __init__(self, name, age, gender, contact):
        self.name = name
        self.age = age
        self.gender = gender
        self.contact = contact

class Account(User):
    def __init__(self, name, age, gender, contact, account_number, pin):
        super().__init__(name, age, gender, contact)
        self.account_number = account_number
        self.pin = pin
        self.balance = 0.0

    def deposit(self, amount):
        if amount > 0:
            self.balance += amount
            print(f"Deposit of ${amount:.2f} successful. New balance is ${self.balance:.2f}.")
        else:
            print("Deposit amount must be positive.")

    def withdraw(self, amount, pin_entered):
        if pin_entered != self.pin:
            print("Incorrect PIN.")
            return False

        if amount > 0:
            if self.balance >= amount:
                self.balance -= amount
                print(f"Withdrawal of ${amount:.2f} successful. New balance is
${self.balance:.2f}.")
                return True
            else:
                print("Insufficient balance.")
                return False
        else:
            print("Withdrawal amount must be positive.")
            return False

    def view_balance(self):
        print(f"Current balance for account {self.account_number} is ${self.balance:.2f}.")

class Bank:
    def __init__(self):
        self.accounts = {}
```

```
    def create_account(self, name, age, gender, contact, pin):
        account_number = str(random.randint(10000000, 99999999))
        while account_number in self.accounts:
            account_number = str(random.randint(10000000, 99999999))

        new_account = Account(name, age, gender, contact, account_number, pin)
        self.accounts[account_number] = new_account
        print(f"Account created successfully for {name}. Your account number is:
{account_number}")
        return new_account

    def find_account(self, account_number):
        return self.accounts.get(account_number)

def main():
    bank = Bank()

    while True:
        print("\n--- Bank Management System ---")
        print("1. Create a new account")
        print("2. Deposit money")
        print("3. Withdraw money")
        print("4. View balance")
        print("5. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            name = input("Enter user's name: ")
            age = int(input("Enter user's age: "))
            gender = input("Enter user's gender: ")
            contact = input("Enter user's contact number: ")
            pin = input("Create a 4-digit PIN: ")
            while not (pin.isdigit() and len(pin) == 4):
                print("Invalid PIN. Please enter a 4-digit number.")
                pin = input("Create a 4-digit PIN: ")

            bank.create_account(name, age, gender, contact, pin)

        elif choice == '2':
            account_number = input("Enter your account number: ")
            account = bank.find_account(account_number)
            if account:
                try:
                    amount = float(input("Enter amount to deposit: "))
                    account.deposit(amount)
                except ValueError:
                    print("Invalid amount. Please enter a number.")
```

```
            else:
                print("Account not found.")

        elif choice == '3':
            account_number = input("Enter your account number: ")
            pin_entered = input("Enter your PIN: ")
            account = bank.find_account(account_number)
            if account:
                try:
                    amount = float(input("Enter amount to withdraw: "))
                    account.withdraw(amount, pin_entered)
                except ValueError:
                    print("Invalid amount. Please enter a number.")
            else:
                print("Account not found.")

        elif choice == '4':
            account_number = input("Enter your account number: ")
            account = bank.find_account(account_number)
            if account:
                account.view_balance()
            else:
                print("Account not found.")

        elif choice == '5':
            print("Thank you for using the Bank Management System. Goodbye!")
            break

        else:
            print("Invalid choice. Please try again.")

if __name__ == "__main__":
    main()
```