

2024-2학기 자바프로그래밍2 4주차 실습

문제 1

```
1 package week4;
2
3 public class Pizza {
4     private String size;
5     private String type;
6     private int price;
7     private static int count = 0;
8
9     public Pizza() {
10         this("기본");
11     }
12
13     public Pizza(String size) {
14         this(size, "기본");
15     }
16
17     public Pizza(String size, String type) {
18         this(size, type, 10000);
19     }
20
21     public Pizza(String size, String type, int price) {
22         this.size = size;
23         this.type = type;
24         this.price = price;
25         count++;
26     }
27
28     @Override
29     public String toString() {
30         return "Pizza [피자 종류: " + type + ", 사이즈: " + size + ", 가격: " + price + "]";
31     }
32
33     public static int getCount() {
34         return count;
35     }
36
37 }
```

```
1 package week4;
2
3 public class Exercise01 {
4
5     public static void main(String[] args) {
6
7         Pizza p0 = new Pizza();
8         Pizza p1 = new Pizza("medium");
9         Pizza p2 = new Pizza("large", "페퍼로니");
10        Pizza p3 = new Pizza("small", "치즈", 8000);
11
12        System.out.println(p0);
13        System.out.println(p1);
14        System.out.println(p2);
15        System.out.println(p3);
16
17        System.out.println("총 생성된 피자 수: " + Pizza.getCount());
18
19    }
20
21 }
```

문제 2

```
1 package week4;
2
3 public class Account {
4     private String name;
5     private String accountNumber;
6     private String password;
7     private int balance;
8     private static int count = 0;
9
10    public Account(String name, String accountNumber, String password, int balance) {
11        this.name = name;
12        this.accountNumber = accountNumber;
13        this.password = password;
14        this.balance = balance;
15        count++;
16    }
17
18    public boolean deposit(int amount) {
19        if(amount > 0) {
20            balance += amount;
21            return true;
22        }
23        return false;
24    }
25
26    public boolean withdraw(int amount) {
27        if(amount > 0 && balance >= amount) {
28            balance -= amount;
29            return true;
30        }
31        return false;
32    }
33
34    public boolean transfer(Account other, int amount) {
35        if(withdraw(amount)) {
36            other.deposit(amount);
37            return true;
38        }
39        else {
40            return false;
41        }
42    }
43
44    public String getAccountNumber() {
45        return accountNumber;
46    }
47
48    public String getName() {
49        return name;
50    }
51
52    public String getPassword() {
53        return password;
54    }
55
56    public int getBalance() {
57        return balance;
58    }
59
60    public static int getCount() {
61        return count;
62    }
63
64 }
```

```

1 package week4;
2
3 import java.util.Scanner;
4
5 public class BankSystem {
6     private Account accounts[];
7     private Account loggedIn;
8
9     public BankSystem() {
10         this(100);
11     }
12
13     public BankSystem(int size) {
14         accounts = new Account[size];
15         loggedIn = null;
16     }
17
18     public Account getAccount(String number) { //계좌 객체 리턴
19         for (Account account : accounts) {
20             if(account == null) break;
21             else if (account != null && account.getAccountNumber().equals(number)) {
22                 return account;
23             }
24         }
25         return null;
26     }
27
28     public void createAccount(String name, String number, String pwd, int balance) {
29         if(getAccount(number) != null) {
30             System.out.println("입력한 계좌번호는 이미 존재합니다.");
31         }
32         else if(Account.getCount() < accounts.length) {
33             accounts[Account.getCount()] = new Account(name, number, pwd, balance);
34             System.out.println("계좌가 정상적으로 개설되었습니다.");
35         }
36     }
37
38     public void login(String number, String pwd) {
39         Account account = getAccount(number);
40         if(account != null && account.getPassword().equals(pwd)) {
41             System.out.println(account.getName() + "님, 환영합니다!");
42             loggedIn = account;
43         }
44         else {
45             System.out.println("계좌번호 또는 비밀번호가 일치하지 않습니다.");
46         }
47     }
48
49     public void process(int idx) {
50         if(loggedIn == null) {
51             System.out.println("로그인 먼저 해주세요.");
52             return;
53         }
54
55         Scanner input = new Scanner(System.in);
56         int amount = 0;
57         switch (idx) {
58             case 0:
59                 System.out.print("입금할 금액을 입력하세요: ");
60                 amount = input.nextInt();
61                 if(loggedIn.deposit(amount))
62                     System.out.println(amount + "원 입금되었습니다. 잔액: " + loggedIn.getBalance());
63                 else
64                     System.out.println("잘못된 금액을 입력하였습니다.");
65                 break;
66             case 1:
67                 System.out.print("출금할 금액을 입력하세요: ");
68                 amount = input.nextInt();
69                 if (loggedIn.withdraw(amount))
70                     System.out.println(amount + "원이 출금되었습니다. 잔액: " + loggedIn.getBalance());
71                 else
72                     System.out.println("잔액이 부족하거나 잘못된 금액을 입력하였습니다.");
73                 break;
74             case 2:
75                 System.out.print("이체할 계좌번호를 입력하세요: ");
76                 String number = input.nextLine();
77                 System.out.print("이체할 금액을 입력하세요: ");
78                 amount = input.nextInt();
79                 Account account = getAccount(number);
80                 if(account == null) {
81                     System.out.println("일치하는 계좌를 찾을 수 없어 이체를 실패하였습니다.");
82                 }
83                 else if(loggedIn.transfer(account, amount)) {
84                     System.out.println(account.getName() + "님의 계좌로 " + amount + "원을 이체하였습니다.");
85                 }
86                 else {
87                     System.out.println("잔액이 부족하거나 잘못된 금액을 입력하였습니다.");
88                 }
89                 break;
90             case 3:
91                 System.out.println("잔액: " + loggedIn.getBalance());
92                 break;
93         }
94     }
95
96 }
97
98
99
100 }

```

```

1 package week4;
2
3 import java.util.Scanner;
4
5 public class Exercise02 {
6
7     public static void main(String[] args) {
8
9         Scanner input = new Scanner(System.in);
10
11         BankSystem bank = new BankSystem(100);
12
13         String number, name, pwd;
14         int balance, idx;
15         boolean flag = true;
16
17         System.out.println("====menu====");
18         System.out.println("0. 계좌 개설");
19         System.out.println("1. 계좌 로그인(재로그인)");
20         System.out.println("2. 입출금/이체/조회");
21         System.out.println("3. 종료");
22         System.out.println("=====");
23
24         while(flag) {
25             System.out.print("메뉴를 선택하세요: ");
26             int choice = input.nextInt();
27             input.nextLine(); //Enter 처리
28             switch (choice) {
29                 case 0:
30                     System.out.print("이름: ");
31                     name = input.nextLine();
32                     System.out.print("계좌번호: ");
33                     number = input.nextLine();
34                     System.out.print("비밀번호: ");
35                     pwd = input.nextLine();
36                     System.out.print("금액: ");
37                     balance = input.nextInt();
38                     input.nextLine(); //Enter 처리
39                     bank.createAccount(name, number, pwd, balance);
40                     break;
41                 case 1:
42                     System.out.print("계좌번호를 입력하세요: ");
43                     number = input.nextLine();
44                     System.out.print("비밀번호를 입력하세요: ");
45                     pwd = input.nextLine();
46                     bank.login(number, pwd);
47                     break;
48                 case 2:
49                     System.out.println("0: 입금    1: 출금    2: 이체    3: 잔액조회");
50                     System.out.print("업무를 선택하세요: ");
51                     idx = input.nextInt();
52                     input.nextLine(); //Enter 처리
53                     bank.process(idx);
54                     break;
55                 case 3:
56                     System.out.println("이용해주셔서 감사합니다.");
57                     flag = false;
58                     break;
59             }
60             System.out.println();
61         }
62
63         input.close();
64     }
65 }
66 }

```