

Attention: Tento program nebol zameraný na všetky možnosti zadávania údajov používateľa a pre používateľa neexistujú tisíce kontrol a výziev, pretože by to stratilo veľa času a podstatou tohto projektu bolo ukázať zručnosti používania metód, ktoré prešli sme túto tému. Preto vás žiadam, aby ste zadali presne tie údaje, ktoré požadujete. Ďalšie podrobnosti o tom, ako program funguje, sú uvedené nižšie.

Ospravedlňujem sa tiež za nesprávne znenie v mojich vetách, som zahraničný študent a neviem dokonale slovenský jazyk.

Ako prazovať z programom?

1) Start programu:

Ak sa chcete prihlásiť do rozhrania, stlačte "l"

Ak si kúpite lístok "b"

Ak sa pozriete, koľko nepredaných miest zostáva "s"

Ak chcete ukončiť program, stlačte "e"

```
1) Login => l
2) Buy tickets => b
3) View available places => s
4) End the program => e
Please enter your command:
```

2) Ak stlačíte "l"

Postup prihlásenia sa začne tam, kde existujú dva typy (ako CUSTOMER a ako ADMIN)

```
Please enter your command:
l
If you want to go back, write e
Write your Login:
|
```

A) ADMIN login:

Môžete sa prihlásiť s 3 rôznymi titulmi (každý z nich má iné práva a má vyššie práva ako správcovia na nižšej úrovni.

Práva "Senior"

prihlásenie: admin

heslo: admin

Práva "Middle"

prihlásenie: adminM

heslo: adminM

Práva "Unior"

prihlásenie: adminU

heslo: adminU

```
Write your Login:
admin
Write your ADMIN password:
admin
Welcome Nazar Meredov
Your interface lvl Senior
Please write your command:
il - information list with all buyers** | p - see all admin personal** | rp - edit password/login | s-salary** | e - log-out
```

Ak stlačíte “il” - Budete mať možnosť buď vidieť celý zoznam kupujúcich (s) alebo zmeniť informácie v tomto zozname (ed).

```
il - information list with all buyers** | p - see all admin personal** | rp - edit password/login | s-salary** | e - log-out
il
Please write your next command:
s - see list with all buyers | ed - edit buyers list
```

Ak stlačíte “s”

```
Please write your next command:
s - see list with all buyers | ed - edit buyers list
s
-----CUSTOMER-----
Name & Surname: Nazar Meredov
Hall type: Classic
TicketCount: 1
RentalPeriod: 12 h
-----|
Name & Surname: Nazar Mering
Hall type: Classic
TicketCount: 5
RentalPeriod: 7 h
-----
Name & Surname: Nazii Bohus
Hall type: Platinum
TicketCount: 4
RentalPeriod: 2 h
-----
Name & Surname: Nazwe Qwet
Hall type: Gold
TicketCount: 4
RentalPeriod: 13 h
-----
Name & Surname: QWERTY ASDFGH
Hall type: Gold
TicketCount: 1
RentalPeriod: 2 h
```

Ak stlačíte “ed” - Budete musieť zadať meno kupujúceho, ktorý si už kúpil lístok (napríklad Nazar Meredov), potom čo chcete zmeniť (ZADAJTE LEN login/halltype/tickets/hours) a následne napíšte nové údaje, ktoré by ste chceli.

```
Please write your next command:
s - see list with all buyers | ed - edit buyers list
ed
Please write Registration Login:
Nazar Meredov
Write what you want change: (login,halltype,tickets,hours)
login
Write your new Data:
Hello World!
Rewriting was successful!
```

Before and after editing:

1	Nazar <u>Meredov</u> ;Classic;1;12;12;14	1	Hello World!;Classic;1;12;12;14
2	Nazar Mering;Classic;5;7;5;13	2	Nazar Mering;Classic;5;7;5;13
3	<u>Nazii</u> <u>Bohus</u> ;Platinum;4;2;8;24	3	<u>Nazii</u> <u>Bohus</u> ;Platinum;4;2;8;24
4	<u>Nazwe</u> <u>Qwet</u> ;Gold;4;13;52;20	4	<u>Nazwe</u> <u>Qwet</u> ;Gold;4;13;52;20
5	QWERTY ASDFGH;Gold;1;2;2;5	5	QWERTY ASDFGH;Gold;1;2;2;5
6	Marii Simson;Platinum;7;12;84;42	6	Marii Simson;Platinum;7;12;84;42
7	<u>Exanple</u> Name;Platinum;1;3;3;6	7	<u>Exanple</u> Name;Platinum;1;3;3;6
8			

Ak stlačíte “rp”

```
rp
What you want reset? (l-login / p-password):
```

Ak stlačíte potom “l”

```
What you want reset? (l-login / p-password):
l
Please write your new login:
Qwerty
Nazar Meredov your new login is Qwerty
```

Ak stlačíte potom “lp”

```
What you want reset? (l-login / p-password):
p
Please write your new password:
Qwerty
Nazar Meredov your new password is Qwerty
```

Výsledok:

```
1  Nazar Meredov;26;Senior;Qwerty;Qwerty
2  Maria Gadren;23;Middle;adminM;adminM
3  Arturia Pentragon;18;Unior;adminU;adminU
4  Leonel Messi;28;Senior;adminL;adminL
5  Cristiano Ronaldo;26;Unior;adminC;adminC
```

B) CUSTOMER login:

Ak sa chcete prihlásiť ako kupujúci, napíšte ľubovoľné prihlasovacie meno alebo heslo, ak ešte nebolo vytvorené, účet sa vytvorí automaticky, ak však bol, budú vám k dispozícii na zobrazenie všetky funkcie.

Keď sa zobrazí výzva na prihlásenie kupujúceho, zadajte: Nazar Meredov a ako heslo: 12345

```
Please enter your command:
l
If you want to go back, write e
Write your Login:
Nazar Meredov
Write your password:
12345
Welcome dear customer!
Please write your command:
i - information | b - busket | e - log-out
```

Ak stlačíte "i"

```
i
Information about you:|
Login: Nazar Meredov
Password: 12345
```

Ak stlačíte "b"

```
Please write your command:
i - information | b - busket | e - log-out
b
All purchased tickets:
Username: Nazar Meredov | Classic hall | 1ks | 12h
```

Ak stlačíte "e"

```
e
Log-out was sucesful!
Please enter your command:
```

3) Ak stlačíte "b"

Vypíšu tabuľku s počtom voľných miest v jednotlivých sálach, ich nákladmi atď. Potom budete požiadaní o zadanie informácií na zakúpenie vstupenky.

```
Please enter your command:
b
If you want to go back, write e

-----
Hall:           Classic      Gold      Platinum
Price:          10.0€        15.0€     20.0€
Number of places: 100/100     50/50     20/20
170
-----
Please Write your name and surname:
|
```

Po zadání všech údajov (Názov, Typ sály, počet miest, počet hodín prenájmu) budú zaznamenané do databázy a môžete ďalej pracovať s programom.

```
-----  
Please Write your name and surname:  
Example Name  
Enter the type of hall what you want to buy:  
Platinum  
Enter the number of tickets you want to buy:  
1  
Write the desired rental period (hours):  
3  
Tickets purchased successfully!  
Thanks for your visit & Enjoy the game :D  
  
Data has been written to the file.
```

4) Ak stlačíte “s”

Vypíšu tabuľku s počtom voľných miest v jednotlivých sálach, ich nákladmi atď.

```
Please enter your command:  
s  
  
-----  
Hall:           Classic           Gold           Platinum  
Price:           10.0€             15.0€          20.0€  
Number of places: 100/100          50/50          20/20  
Total Available Seats: 170  
  
-----
```

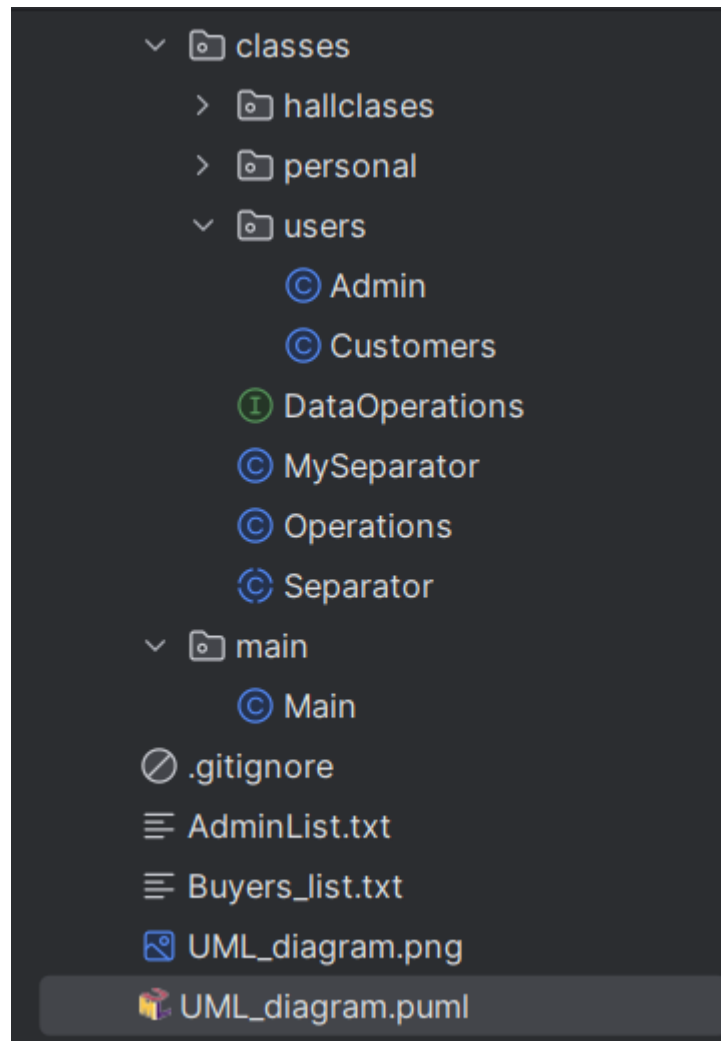
5) Ak stlačíte “e”

Vypíše koniec programu

```
Please enter your command:  
e  
  
Thanks for using my program!  
  
Process finished with exit code 0
```

1) Funkcionalita; - Kód bol napísaný s ohľadom na flexibilitu a funkčnosť. S možnosťou jednoduchého prístupu k už zapísaným údajom a vytváraní nových alebo vymazávaniu existujúcich bez prepisovania celého programu.

2) Organizácia kódu do balíkov; -Všetky dáta/súbory sú umiestnené v samostatných priečinkoch, čo poskytuje lepšiu prehľadnosť kódu a hierarchiu.



3) Dedenie; - Princíp dedenia bol jedným zo základov programu, bez ktorého by implementácia bola ťažká. V mojom projekte bolo niekoľko príkladov tohto princípu, a to: trieda Hall a jej podtriedy (typy sál).

```
package classes.hallclasses;

8 usages
public class Classic extends Halls {
    // Konstructor pre Classic
    2 usages
    public Classic(double price, int numbofpl, int aktualpl, double expenses, int staffCount) {
        super(price, numbofpl, aktualpl, expenses, staffCount);
    }

    5 usages
    public Classic() { super( price: 10, numbofpl: 100, aktualpl: 100, expenses: 2, staffCount: 10); }
}
```

```
package classes.hallclasses;

8 usages
public class Gold extends Halls {
    // Konstructor pre Gold
    2 usages
    public Gold(double price, int numbofpl, int aktualpl, double expenses, int staffCount) {
        super(price, numbofpl, aktualpl, expenses, staffCount);
    }

    5 usages
    public Gold() { super( price: 15, numbofpl: 50, aktualpl: 50, expenses: 5, staffCount: 5); }
}
```

```
package classes.hallclasses;
3 usages 3 inheritors
public class Halls {
    3 usages
    private double price;
    3 usages
    private int numbofpl;
    3 usages
    private int aktualpl;
    3 usages
    private double expenses;
    3 usages
    private int staffCount;

    // Konstructor
    6 usages
    public Halls(double price, int numbofpl, int aktualpl, double expenses, int staffCount) {
        this.price = price;
        this.numbofpl = numbofpl;
        this.aktualpl = aktualpl;
        this.expenses = expenses;
        this.staffCount = staffCount;
    }

    6 usages
    public double getPrice() { return price; }
    no usages
    public void setPrice(double price) { this.price = price; }

    6 usages
    public int getnumbofpl() { return numbofpl; }
}
```

4) Zapuzdrenie; - Metóda zapuzdrenia sa používala takmer všade tam, kde to bolo možné alebo potrebné u registrovaných heter a setrov.

```
package classes.users;
```

7 usages

```
public class Customers {  
    3 usages  
    private String name;  
    3 usages  
    private String surname;  
    3 usages  
    private int age;
```

```
1 usage  
public String getName() { return name; }  
no usages  
public void setName(String name) { this.name = name; }
```

```
1 usage  
public String getSurname() { return surname; }  
no usages  
public void setSurname(String surname) { this.surname = surname; }
```

```
no usages  
public int getAge() { return age; }  
no usages  
public void setAge(int age) { this.age = age; }
```

5) Preťažovanie; - V triedach Main a Operations existuje niekoľko metód s rovnakým názvom, ale s rôznymi parametrami. To vám umožní volať rovnakú metódu s rôznymi parametrami.

```
> public void run(){...}  
  
    public static void main(String[] args) {  
        Main main = new Main();  
        main.run();  
    }  
}
```

```
1 usage  
> public void setAdminlog(boolean adminlog) { this.adminlog = adminlog; }  
1 usage  
> public void setRental_period(int rental_period) { this.rental_period = rental_period; }  
3 usages  
> public void setCount_of_ticket(int count_of_ticket) { this.count_of_ticket = count_of_ticket; }  
3 usages  
> public void setName_of_hall(String name_of_hall) { this.name_of_hall = name_of_hall; }  
1 usage  
> public void setProfit(int profit) { this.profit = profit; }  
1 usage  
> public void setExpenses(int expenses) { this.expenses = expenses; }  
1 usage  
> public void setNameSurname(String name_surname) { this.name_surname = name_surname; }  
1 usage  
> public void calculateProfit(String hallName) {...}  
1 usage  
> public void calculateExpenses(String hallName) {...}
```


6) Prekonávanie; - Môj kód používa metódy countNumOfPlaces a getTotalAvailableSeats, kde metódy z rodičovských tried prepíšu metódy z triedy Operations

```
public int getTotalAvailableSeats() {  
    int classicAvailable = classicHall.GetAktualpl();  
    int goldAvailable = goldHall.GetAktualpl();  
    int platinumAvailable = platinumHall.GetAktualpl();  
  
    return classicAvailable + goldAvailable + platinumAvailable;  
}
```

```
2 usages  
public void calculateNumOfPlaces(){  
    String fileName = "Buyers_list.txt";  
    try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {  
        String line;  
        while ((line = reader.readLine()) != null) {  
            String[] parts = line.split(regex: ".");  
            String nameSurname = parts[0];  
            String hallName = parts[1];  
            int ticketCount = Integer.parseInt(parts[2]);  
            int rentalPeriod = Integer.parseInt(parts[3]);  
            int profit = Integer.parseInt(parts[4]);  
            int expenses = Integer.parseInt(parts[5]);  
  
            if ("Classic".equals(hallName)){  
                classicHall.SetAktualpl(classicHall.GetAktualpl()-ticketCount);  
            }else if ("Gold".equals(hallName)){  
                goldHall.SetAktualpl(goldHall.GetAktualpl()-ticketCount);  
            } else if ("Platinum".equals(hallName)) {  
                platinumHall.SetAktualpl(platinumHall.GetAktualpl()-ticketCount);  
            }  
        }  
    } catch (IOException | NumberFormatException e) {  
        System.err.println("Error reading the file: " + e.getMessage());  
    }  
  
    System.out.println(classicHall.GetAktualpl());  
    System.out.println(goldHall.GetAktualpl());  
    System.out.println(platinumHall.GetAktualpl());  
}
```

7) Agregácia; - Metódu run() možno v mojom programe považovať za metódu agregácie, ktorá riadi hlavný tok vykonávania a interakcie používateľa.

```
1 package main;  
2  
3 import java.util.Scanner;  
4 import classes.hallclases.Classic;  
5 import classes.hallclases.Gold;  
6 import classes.hallclases.Platinum;  
7 import classes.Operations;  
8  
9 public class Main {  
10     1 usage  
11     private Classic classicHall;  
12     1 usage  
13     private Gold goldHall;  
14     1 usage  
15     private Platinum platinumHall;  
16     1 usage  
17     private Operations operations;  
18     1 usage  
19     public Main(){  
20         classicHall = new Classic();  
21         goldHall = new Gold();  
22         platinumHall = new Platinum();  
23         operations = new Operations( CurrentLogin: null);  
24     }  
25  
26     1 usage  
27     > public void run(){...}  
28  
29  
30  
31     public static void main(String[] args) {  
32         Main main = new Main();  
33         main.run();  
34     }  
35 }
```

8) Kompozícia; - Na fotografii nižšie trieda Operations vytvára inštancie tried Classic, Gold a Platinum, ktoré predstavujú rôzne typy miestností. Potom v metóde vypočítať náklady trieda Operations použije tieto inštancie na získanie informácií o výdavkoch pre príslušný typ miesta konania a vypočíta celkové náklady na základe počtu vstupeniek a ceny prenájmu. Toto demonštruje metódu Kompozícií, kde trieda Operations „zloží“ funkcionality z iných tried (Classic, Gold, Platinum), aby splnila svoju úlohu.

```
5 usages  
Classic classicHall = new Classic();  
5 usages  
Gold goldHall = new Gold();  
5 usages  
Platinum platinumHall = new Platinum();
```

```
1 usage  
public void calculateExpenses(String hallName) {  
    double expenses = 0;  
    if ("Classic".equals(hallName)) {  
        expenses = getCount_of_ticket() * classicHall.getExpenses();  
    } else if ("Gold".equals(hallName)) {  
        expenses = getCount_of_ticket() * goldHall.getExpenses();  
    } else if ("Platinum".equals(hallName)) {  
        expenses = getCount_of_ticket() * platinumHall.getExpenses();  
    }  
    setExpenses((int) expenses);  
}
```

9) Asociácia;

Polia classicHall, goldHall a platinumHall sú asociácie medzi triedou Operations a triedami Classic, Gold a Platinum. Vaše objekty tried Classic, Gold a Platinum sú asociované s objektmi triedy Operations a používajú sa na prístup k údajom a metódam týchto tried.

Tieto objekty sú spojené s triedou Operations a používajú sa na prístup k údajom a metódam tried Classic, Gold a Platinum.

V metóde calculateExpenses(String hallName) trieda Operations spolupracuje s objektmi classicHall, goldHall a platinumHall, aby získala informácie o nákladoch na rôzne typy hál.

V metóde vypočítatExpenses(String hallName) trieda Operations interaguje s objektmi classicHall, goldHall a platinumHall s cieľom získať informácie o výdavkoch pre rôzne typy sál.

```
5 usages
Classic classicHall = new Classic();
5 usages
Gold goldHall = new Gold();
5 usages
Platinum platinumHall = new Platinum();
```

```
1 usage
public void calculateExpenses(String hallName) {
    double expenses = 0;
    if ("Classic".equals(hallName)) {
        expenses = getCount_of_ticket() * classicHall.getExpenses();
    } else if ("Gold".equals(hallName)) {
        expenses = getCount_of_ticket() * goldHall.getExpenses();
    } else if ("Platinum".equals(hallName)) {
        expenses = getCount_of_ticket() * platinumHall.getExpenses();
    }
    setExpenses((int) expenses);
}
```

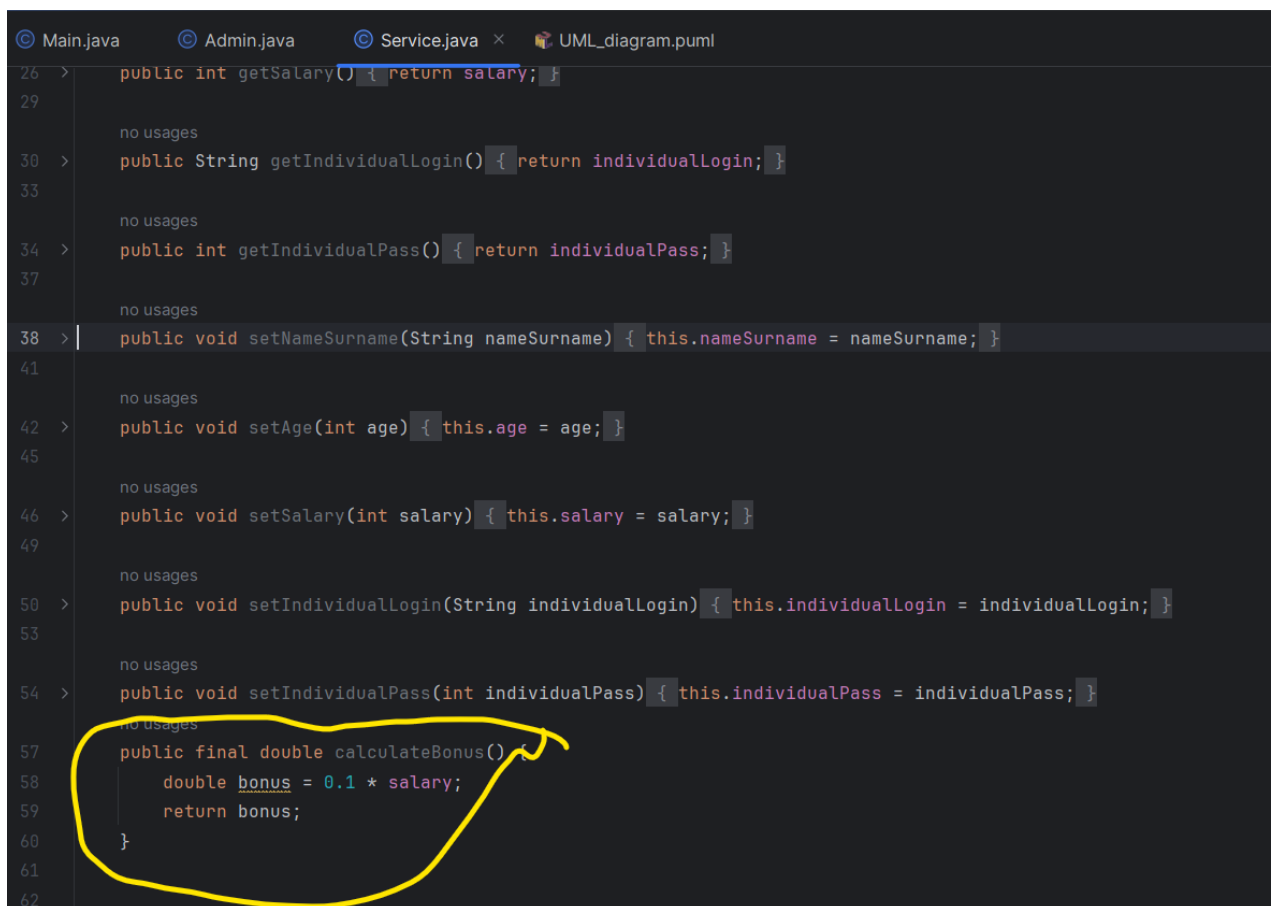
```
public void calculateNumOfPlaces(){
    String fileName = "Buyers_list.txt";
    try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {
        String line;
        while ((line = reader.readLine()) != null) {
            String[] parts = line.split(regex: " ");
            String nameSurname = parts[0];
            String hallName = parts[1];
            int ticketCount = Integer.parseInt(parts[2]);
            int rentalPeriod = Integer.parseInt(parts[3]);
            int profit = Integer.parseInt(parts[4]);
            int expenses = Integer.parseInt(parts[5]);

            if ("Classic".equals(hallName)){
                classicHall.SetAktualpl(classicHall.GetAktualpl()-ticketCount);
            } else if ("Gold".equals(hallName)){
                goldHall.SetAktualpl(goldHall.GetAktualpl()-ticketCount);
            } else if ("Platinum".equals(hallName)) {
                platinumHall.SetAktualpl(platinumHall.GetAktualpl()-ticketCount);
            }
        }
    } catch (IOException | NumberFormatException e) {
        System.err.println("Error reading the file: " + e.getMessage());
    }
    System.out.println(classicHall.GetAktualpl());
    System.out.println(goldHall.GetAktualpl());
    System.out.println(platinumHall.GetAktualpl());
}
```

10) Finálny atribút; - Táto metóda bola použitá v triede Admin na implementáciu hesla a prihlasovacieho mena na prihlásenie do siete správcu (private final String adminLogin; // private final String adminPassword;)

```
public class Admin {  
    2 usages  
    private final String adminLogin;  
    2 usages  
    private final String adminPassword;  
    1 usage  
    private final String rank;
```

11) Finálna metóda; - Metóda bola použitá v triede Service v metóde calculateBonus() na výpočet bonusu k platom zamestnancov. Používa sa na určený účel v dôsledku podtried spojených so Service



```
© Main.java  © Admin.java  © Service.java  ×  UML_diagram.puml  
26 > public int getSalary() { return salary; }  
29  
    no usages  
30 > public String getIndividualLogin() { return individualLogin; }  
33  
    no usages  
34 > public int getIndividualPass() { return individualPass; }  
37  
    no usages  
38 > public void setNameSurname(String nameSurname) { this.nameSurname = nameSurname; }  
41  
    no usages  
42 > public void setAge(int age) { this.age = age; }  
45  
    no usages  
46 > public void setSalary(int salary) { this.salary = salary; }  
49  
    no usages  
50 > public void setIndividualLogin(String individualLogin) { this.individualLogin = individualLogin; }  
53  
    no usages  
54 > public void setIndividualPass(int individualPass) { this.individualPass = individualPass; }  
57  
    no usages  
57 > public final double calculateBonus() {  
58     double bonus = 0.1 * salary;  
59     return bonus;  
60 }  
61  
62
```

12) Statický atribút: - Pridal som statický atribút pre getter a setter triedy Customer

```
public class Customers {  
    3 usages  
    private static String name;  
    3 usages  
    private static String surname;  
    3 usages  
    private static int age;  
  
    no usages  
    public Customers(String name, String surname, int age) {  
        this.name = name;  
        this.surname = surname;  
        this.age = age;  
    }  
  
    1 usage  
    > ! public static String getName() { return name; }  
    no usages  
    > public void setName(String name) { this.name = name; }  
  
    1 usage  
    > • public static String getSurname() { return surname; }  
    no usages  
    > public void setSurname(String surname) { this.surname = surname; }  
  
    no usages  
    > • public static int getAge() { return age; }  
    no usages  
    > public void setAge(int age) { this.age = age; }  
}
```

13) Návrhový vzor Singleton: - Model Singleton bol zakomponovaný do triedy Service

```
3 public class Service {
4     3 usages
5     private String nameSurname;
6     3 usages
7     private int age;
8     4 usages
9     private int salary;
10    3 usages
11    private String individualLogin;
12    3 usages
13    private int individualPass;
14
15    3 usages
16    private static Service instance;
17    1 usage
18    private Service(String nameSurname, int age, int salary, String individualLogin, int individualPass) {
19        this.nameSurname = nameSurname;
20        this.age = age;
21        this.salary = salary;
22        this.individualLogin = individualLogin;
23        this.individualPass = individualPass;
24    }
25
26    no usages
27    public static Service getInstance() {
28        if (instance == null) {
29            instance = new Service("0", 0, salary: 0, individualLogin: "0", individualPass: 0);
30        }
31        return instance;
32    }
33
34    }
35
36    no usages
```

14+15) Abstraktná trieda + Abstraktná metóda: - Kód obsahuje abstraktnú triedu Separator a jej podtriedu MySeparator, ktorá implementuje abstraktnú metódu separator.

Trieda MySeparator rozširuje (zdedí) abstraktnú triedu Separator a musí poskytovať implementáciu abstraktnej samostatnej metódy. Táto metóda rozdelí reťazec na časti a vráti zoznam týchto častí.

```
package classes;
import java.util.ArrayList;
import java.util.List;

3 usages
public class MySeparator extends Separator {
    1 usage
    @Override
    public List<String> separate(String input) {
        List<String> result = new ArrayList<>();

        String[] parts = input.split(regex: " ");
        for (String part : parts) {
            result.add(part.trim());
        }

        return result;
    }
}

Main.java  MySeparator.java  Separator.java  DataOperations.java
1 package classes;
2 import java.util.List;
3
4 1 usage 1 inheritor
5 1 usage 1 implementation
6 public abstract List<String> separate(String input);
```

```
Main.java  MySeparator.java  Separator.java  DataOperations.java  Operations.java  Service.java  Union.java
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```

16) Rozhranie: - Rozhranie DataOperations je definované v balíku tried a trieda Operations implementuje toto rozhranie.

DataOperations deklaruje niekoľko metód, ako napríklad writeFile(), readFile(), printTickets() a tak ďalej. Tieto metódy sú potom implementované v triede Operations.

Trieda Operations poskytuje funkcionality pre zápis a čítanie údajov, tlač lístkov, výpočet počtu dostupných miest, vyhľadávanie administrátorských prihlásení, tlač administrátorov a úpravu zoznamu zákazníkov. Všetky tieto funkcie sú definované v rozhraní DataOperations a trieda Operations ich podľa toho implementuje.

```
1 package classes;
2
3 import java.util.List;
4
5 1 usage 1 implementation
6 public interface DataOperations {
7     1 usage 1 implementation
8     void writeFile();
9     2 usages 1 implementation
10    void readFile();
11    1 usage 1 implementation
12    void printTickets();
13    2 usages 1 implementation
14    void calculateNumOfPlaces();
15    2 usages 1 implementation
16    int getTotalAvailableSeats();
17    1 usage 1 implementation
18    List<String> findAdminLogin(String enteredLogin);
19    2 usages 1 implementation
20    void printAdmins(String loadrank);
21    1 usage 1 implementation
22    void editBuyersList(String enteredName, String enteredType, String enteredData);
23    4 usages 1 implementation
24    boolean getAdminLog();
25    2 usages 1 implementation
26    int getRental_period();
27    5 usages 1 implementation
28    int getCount_of_ticket();
29    3 usages 1 implementation
30    String getName_of_hall();
```

```
public class Operations implements DataOperations {
```

```
76 1 usage > public void calculateProfit(String hallName) {...}
80 1 usage > public void calculateExpenses(String hallName) {...}
91 1 usage > public void writeFile() {...}
104 2 usages > public void readFile() {...}
143 1 usage > public void printTickets() {...}
166 2 usages > public void calculateNumOfPlaces(){...}
195 2 usages > public int getTotalAvailableSeats() {...}
202 1 usage > public List<String> findAdminLogin(String enteredLogin) {...}
224 2 usages > public void printAdmins(String loadrank){...}
261 1 usage > public void editBuyersList(String enteredName, String enteredType, String enteredData) {...}
297 }
```

```

89         setExpenses((int) expenses);
90     }
91     1 usage
92     public void writeFile() {
93         calculateProfit(getName_of_hall());
94         calculateExpenses(getName_of_hall());
95         String fileName = "Buyers_list.txt";
96         String data = getNameSurname() + ";" + getName_of_hall() + ";" + getCount_of_ticket() + ";" + getRental_period() + ";" + getProfit() + ";
97
98         try (BufferedWriter writer = new BufferedWriter(new FileWriter(fileName, append: true))) {
99             writer.write(data);
100             System.out.println("Data has been written to the file.");
101         } catch (IOException e) {
102             System.err.println("Error writing to the file: " + e.getMessage());
103         }
104     }
105     3 usages
106     public void readFile() {
107         String fileName = "Buyers_list.txt";
108
109         try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {
110             String line;
111             if(!getAdminLog()) {
112                 System.out.println("-----CUSTOMER-----");
113             }else if (getAdminLog()){
114                 System.out.println("---WELCOME_ADMIN---");
115             }
116             while ((line = reader.readLine()) != null) {
117                 String[] parts = line.split( regex: ";" );
118                 String nameSurname = parts[0];
119                 String hallName = parts[1];
120                 int ticketCount = Integer.parseInt(parts[2]);

```

17) Upcasting: - Upcasting je priradenie objektu k jeho základnému typu (v tomto prípade je objekt Union priradený k typu Service)

```

3 usages
public void editpassAdmin(String enteredPass, String name, int age, String login) {
    Union union;
    union = new Union(name, age, salary: 1000, login, enteredPass, rank: "Union");
    Service upCastingUnion = (Service) union;

    String fileName = "AdminList.txt";
    List<String> modifiedLines = new ArrayList<>();
    try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {...} catch (IOException | NumberFormatException e) {
        System.err.println("Error reading the file: " + e.getMessage());
    }
    try (BufferedWriter writer = new BufferedWriter(new FileWriter(fileName))) {...} catch (IOException e) {
        System.err.println("Error writing to the file: " + e.getMessage());
    }
}

```

union objekt (typu Union) je odovzdaný do typu Service. Potom je možné premennú upCastingUnion použiť ako objekt typu Service, hoci v skutočnosti ide o objekt typu Union.

```

Union union;
union = new Union(name, age, salary: 1000, login, enteredPass, rank: "Union");

```

```

Service upCastingUnion = (Service) union;

```

```

if (nameSurname.equals(name)) {
    upCastingUnion.editpassUnionEvent(enteredPass);
    adminpass = enteredPass;
}

```


18) Downcasting: - sa používa na použitie špecifickej metódy editloginUniorEvent objektu typu Service, ktorý bol predtým vytvorený ako Unior.

```
public void editlogAdmin(String enteredLog, String name, int age,String login, String loginPass) {  
    Service service = new Service(name, age, salary: 1000, enteredLog, loginPass, rank: "Unior");  
    Unior downCastingUnior = (Unior) service;  
  
    String fileName = "AdminList.txt";  
    List<String> modifiedLines = new ArrayList<>();  
  
    try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {...} catch (IOException | NumberFormatException e) {  
        System.err.println("Error reading the file: " + e.getMessage());  
    }  
    try (BufferedWriter writer = new BufferedWriter(new FileWriter(fileName))) {...} catch (IOException e) {  
        System.err.println("Error writing to the file: " + e.getMessage());  
    }  
}
```

Tu sa vytvorí Unior objekt a priradí sa k premennej service typu Service. Objekt Unior je uložený v premennej service.

```
Service service = new Service(name, age, salary: 1000, enteredLog, loginPass, rank: "Unior");
```

Tento blok kódu kontroluje, či sa adminlog zhoduje s odovzdaným prihlásením. Ak je podmienka splnená, dôjde k poklesu. Keďže metóda editloginUniorEvent je špecifická pre triedu Unior, možno ju volať až po downcastingu.

```
Unior downCastingUnior = (Unior) service;
```

```
if (adminlog.equals(login)) {  
    downCastingUnior.editloginUniorEvent(enteredLog);  
    adminlog = enteredLog;  
    login = enteredLog;  
}
```

19+20) Polymorfizmus+ Prejav polymorfizmu: - Metóda editloginUnionEvent a editpassUnionEvent je deklarovaná v triede Service a prepísaná v triede Union.

Keď teraz zavoláme editloginUnionEvent a editpassUnionEvent na inštanciu služby, bude dynamicky odoslaná do vhodnej implementácie na základe skutočného typu objektu za behu, čím sa dosiahne polymorfné správanie.

```
Union.java x
1 package classes.personal;
2
3 public class Union extends Service {
4     public Union(String nameSurname, int age, int salary, String individualLogin, String individualPass, String rank) {
5         super(nameSurname, age, salary: 1000, individualLogin, individualPass, rank: "Union");
6     }
7
8     public void editloginUnionEvent(String newLogin) {
9         setIndividualLogin(newLogin);
10        System.out.println(getNameSurname() + " your new login is " + newLogin);
11    }
12
13    public void editpassUnionEvent(String newPass) {
14        setIndividualPass(newPass);
15        System.out.println(getNameSurname() + " your new password is " + newPass);
16    }
17 }
```

```
public void editpassAdmin(String enteredPass, String name, int age, String login) {
    Union union;
    union = new Union(name, age, salary: 1000, login, enteredPass, rank: "Union");
    Service upCastingUnion = (Service) union;

    String fileName = "AdminList.txt";
    List<String> modifiedLines = new ArrayList<>();
    try (BufferedReader reader = new BufferedReader(new FileReader(fileName))) {
        String line;
        while ((line = reader.readLine()) != null) {
            String[] parts = line.split(regex: ".");
            String nameSurname = parts[0];
            int ages = Integer.parseInt(parts[1]);
            String rank = parts[2];
            String adminlog = parts[3];
            String adminpass = parts[4];

            if (nameSurname.equals(name)) {
                upCastingUnion.editpassUnionEvent(enteredPass);
                adminpass = enteredPass;
            }
            String modifiedLine = nameSurname + ";" + ages + ";" + rank + ";" + adminlog + ";" + adminpass;
            modifiedLines.add(modifiedLine);
        }
    } catch (IOException | NumberFormatException e) {
        System.err.println("Error reading the file: " + e.getMessage());
    }
    try (BufferedWriter writer = new BufferedWriter(new FileWriter(fileName))) {
        for (String modifiedLine : modifiedLines) {
            writer.write(modifiedLine);
            writer.newLine();
        }
    }
}
```

```
Service.java x
82         return bonus;
83     }
84
85     > 1 usage
    public void editlogAdmin(String enteredLog, String name, int age, String login, String loginPass) {...}
    1 usage 1 override
121 @  public void editloginUniorEvent(String newLogin) {
122     setIndividualLogin(newLogin);
123     System.out.println(getNameSurname() + " your new LOGIN is " + newLogin);
124 }
125
126 > 1 usage 1 override
    public void editpassAdmin(String enteredPass, String name, int age, String login) {...}
    1 usage 1 override
169 @  public void editpassUniorEvent(String newPass) {
170     setIndividualPass(newPass);
171     System.out.println(getNameSurname() + " your new PASSWORD is " + newPass);
172 }
173
174 }
```