Міністерство освіти і науки України

Національний університет «Львівська політехніка»



**Лабораторна робота №10**

на тему:

«Основи програмування Java»

з курсу:

«ООР»

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*Лабораторна робота № 10*

***Мета роботи:*** розширити вміння працювати з мовою Java, розглянути основні функції мови Java.

**Програмний код**

**AutoStation.java**

**import** java.util.Objects;

**import** java.util.Scanner;

**public** **class** AutoStation {

**private** **static** Scanner *scanner* = **new** Scanner(System.***in***);

**public** **static** **void** main(String[] args){

Data information = **new** Data();

**boolean** flag = **true**, secondFlag = **false**;

String direction;

**int** number;

System.***out***.println("Welcome to the Lviv Auto Station. How can we help You?");

**while**(**true**) {

System.***out***.println("Please, input the city to see more information: 'Kyiv', 'Rivne', 'Lublin', 'Paris' \n" +

" [E] to Exit ");

direction = *scanner*.next();

**if**(direction.equals("E")){

**break**;

}

**while** (flag) {

System.***out***.println("\n [0] - Seats left \n [1] - What's the price \n " +

"[2] - Confirm the city and buy tickets \n [3] - Back \n");

number = *scanner*.nextInt();

**switch** (number) {

**case** 0:

System.***out***.println("There are/is " + information.freeSpace(direction) + " seat/seats left.");

**break**;

**case** 1:

System.***out***.println("The price is " + information.seePrice(direction) + "$.");

**break**;

**case** 2:

System.***out***.println("You are heading to " + information.whereToGo(direction) + ".");

secondFlag = **true**;

**break**;

**case** 3:

flag = **false**;

**break**;

**default**:

System.***out***.println("Wrong input, retry:");

**break**;

}

//Buying process:

**while** (secondFlag) {

**int** money;

**int** seats = 9999999;

System.***out***.println("How many tickets do you want? (" + information.freeSpace(direction) + " left) \n" +

"Enter [-1] to Exit.");

**while** (seats > information.freeSpace(direction)) {

seats = *scanner*.nextInt();

**if** (seats > information.freeSpace(direction)) {

System.***out***.println("There are not so many seats left, sorry.");

} **else** **if** (seats == -1) {

secondFlag = **false**;

**break**;

}

}

System.***out***.println("Pay " + information.price + "$ for the ticket: ");

money = *scanner*.nextInt();

**if** (money == -10) {

secondFlag = **false**;

**break**;

}

**if** (information.buyTicket(money) == 0) {

System.***out***.println("Thank you and good luck!");

} **else** **if** (information.buyTicket(money) != -1) {

System.***out***.println("Payback of " + information.buyTicket(money) + "$. Thank you and good luck!");

secondFlag = **false**;

flag = **false**;

**break**;

} **else** {

System.***out***.println("Not enough money. input -10 to Exit");

}

}

}

**if**(information.bought){

**while**(!flag) {

System.***out***.println("\n [1] to see time to go \n [2] to Exit Terminal");

**int** num;

num = *scanner*.nextInt();

**switch** (num) {

**case** 1:

System.***out***.println("Time for departure to " + direction + " is " + information.timeToGo(direction)

+ " minutes.");

**break**;

**case** 2:

flag = **true**;

**break**;

}

}

}

}

}

}

**Data.java**

**public** **class** Data {

**public** **int** price = 100000000;

**public** **boolean** bought = **false**;

**public** String whereToGo(String direction){

**switch**(direction){

**case** "Kyiv":

price = 250;

**return** direction;

**case** "Rivne":

price = 150;

**return** direction;

**case** "Lublin":

price = 1000;

**return** direction;

**case** "Paris":

price = 2000;

**return** direction;

**default**:

**break**;

}

**return** "Unknown";

}

**public** **int** seePrice(String direction){

**int** price;

**switch** (direction){

**case** "Kyiv":

price = 250;

**return** price;

**case** "Rivne":

price = 150;

**return** price;

**case** "Lublin":

price = 1000;

**return** price;

**case** "Paris":

price = 2000;

**return** price;

**default**:

**break**;

}

**return** 0;

}

**public** **int** buyTicket(**int** money){

**int** payback;

**if** (money >= price) {

payback = money - price;

bought = **true**;

**return** payback;

} **else** {

**return** -1;

}

}

**public** **int** timeToGo(String direction){

**int** time;

**switch**(direction){

**case** "Kyiv":

time = 20;

**return** time;

**case** "Rivne":

time = 10;

**return** time;

**case** "Lublin":

time = 120;

**return** time;

**case** "Paris":

time = 60;

**return** time;

**default**:

**return** 0;

}

}

**public** **int** freeSpace(String direction){

**switch**(direction){

**case** "Kyiv":

**return** 3;

**case** "Rivne":

**return** 100;

**case** "Lublin":

**return** 10;

**case** "Paris":

**return** 1;

**default**:

**return** 0;

}

}

}