

Problem 1

A real agency intermediates the sale and purchase of buildings by both types: apartments and villas. Every building has the following attributes: address, owner name, construction year, surface, value.

Adding to the value estimated by agency and owner, the agency takes a sale/purchase commission by 30% for villas and 20 % for apartments.

Implement the next class's hierarchy and write a program that fulfills the following functions:

- computes the sale price for every building type
- memorize in two object collections the information about each building depending on its type.

The information of building will be taken from user, using the frame shown calling the static method `showInputDialog(String)` from the class `JOptionPane` using the following format:

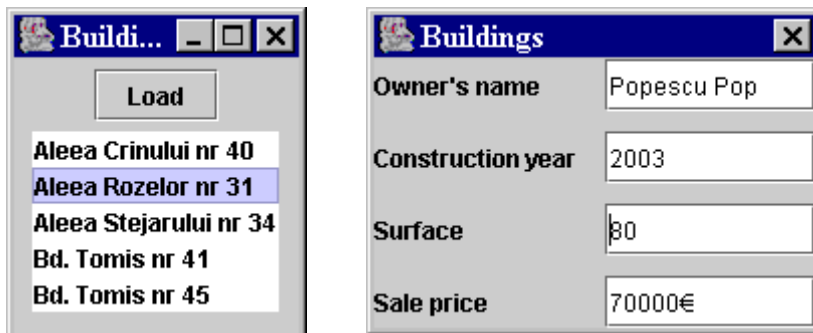
Address_First and last name_construction year_surface_value_type

In the following, we assume that the user will insert the following strings, one string one a time:

Bd. Tomis nr 45_Vasilescu Marin_1980_66_30000€_apartment
Aleea Stejarului nr 34_Ionescu Ion_2003_90_75000€_villa
Aleea Rozelor nr 31_Popescu Pop_2003_80_70000€_villa
Bd. Tomis nr 41_Nastase Ion_1980_66_25000€_apartment
Aleea Crinului nr 40_Marinescu Ion_1980_66_50000€_villa

Hint. The Unicode code of the character € is \u20AC.

Furthermore, the program displays the following graphical interface:



When the user clicks the button „Load”, the program loads in a List component all the addresses of buildings from the object collections and displays them in alphabetical order. In addition, when the user selects an address from list, the program will display a dialog frame which contains the rest of selected building attributes (like the above dialog frame).

