University of Aberystwyth

First year group project

UML2 Java

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UML2Java Graphical Designer

`UML2Java` is a Graphic User Interface program that allows a user to create UML2 class diagrams. The program will then output the class files from the created class diagram including all relevant fields, methods and relationships to other classes. The UML designer was created as a requirement for our first year group project.

Contents

1 File Menu

1.1 Create new Class Diagram

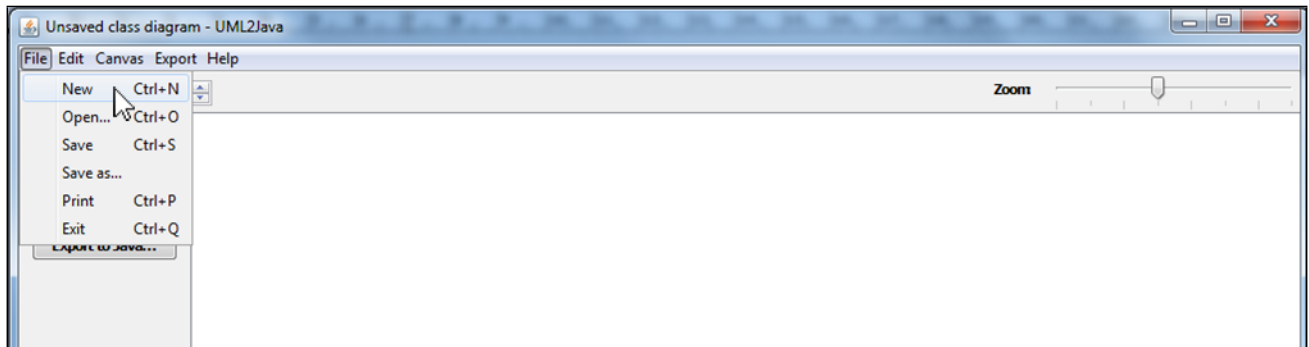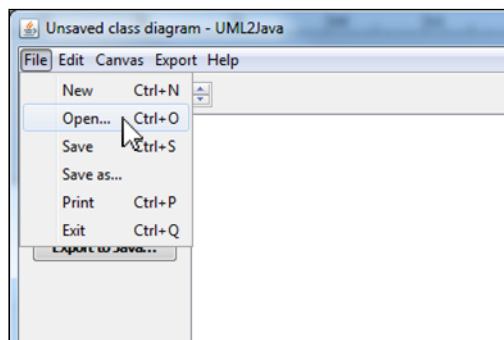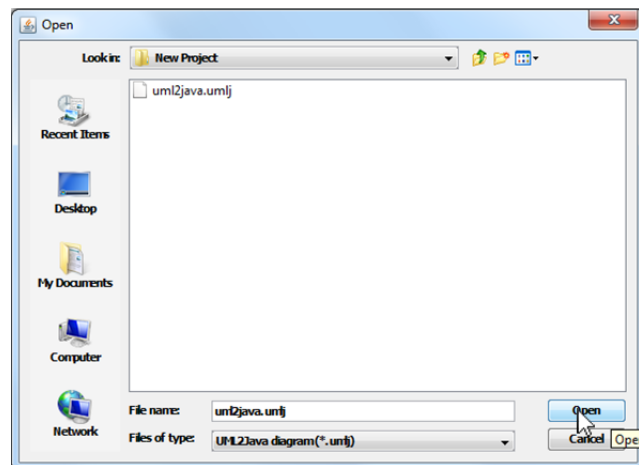To create a new Class Diagram, go to the top menu bar and press `File → New`

Figure 1: Creating a new Diagram

1.2 Open an existing diagram

To open a previously saved diagram, go to the top menu bar and press `File → Open...` or simply press `CTRL+O` This will open up a new window asking for the location of the file you wish to open
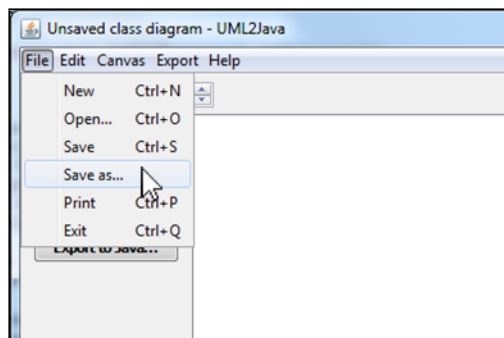

(a) File → Open

(b) Select File to open
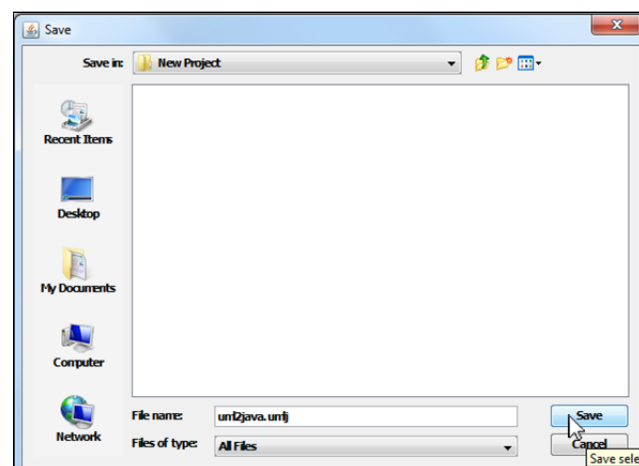
Figure 2: Opening an existing diagram

1.3 Saving a diagram

To save a diagram, go to the top menu bar and press `File → Save/Save as...` or simply press `CTRL+S`

(a) File → Save

(b) Select Save Location

Figure 3: Saving a diagram

1.4 Printing a Diagram

To print a created diagram, go to the top bar and press `File → Print` or simply press `CTRL+P` and select the desired printer from the open window
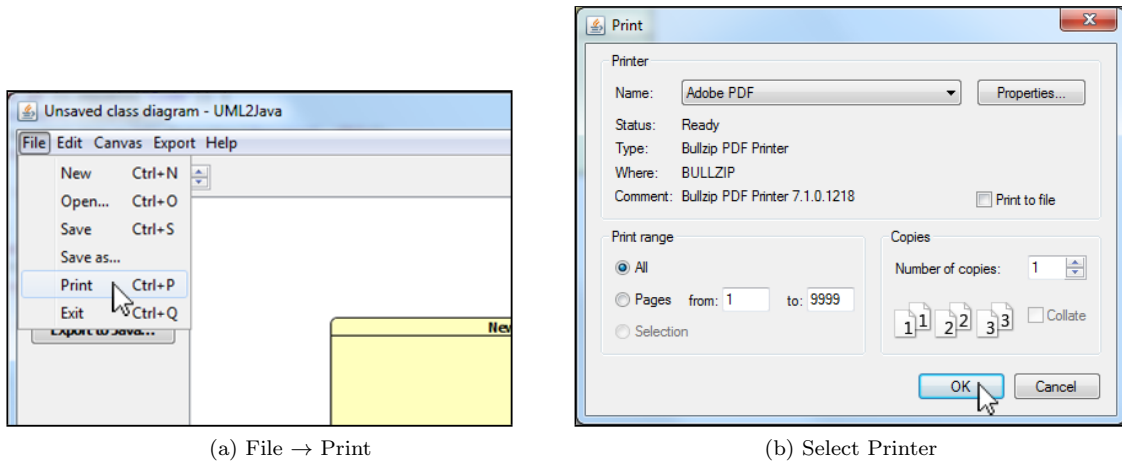

(a) File → Print   (b) Select Printer

Figure 4: Printing a diagram

1.5 Exiting the Designer

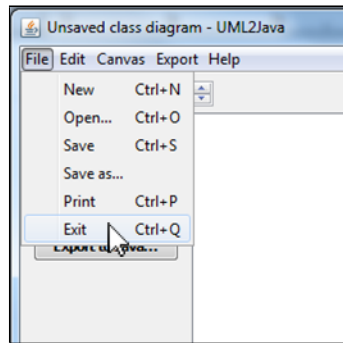To end the current session in `UML2Java`

Figure 5: Exiting the Designer

2 Edit Menu

2.1 Undoing an Action

If you require to undo the previous action, go to the top bar and press `Edit → Undo` or press `CTRL+Z` from the keyboard
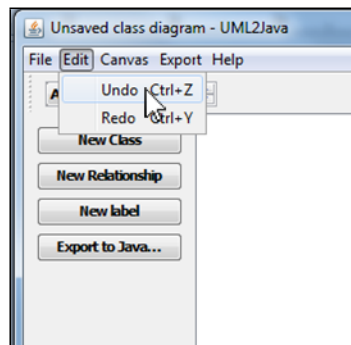

Figure 6: Undo last Action

2.2 Redoing an Action

if you need to redo a previously undone action, simply go to the top bar and press `Edit → Redo` or press `CTRL+Y` from your keyboard
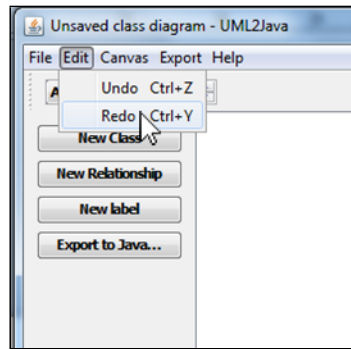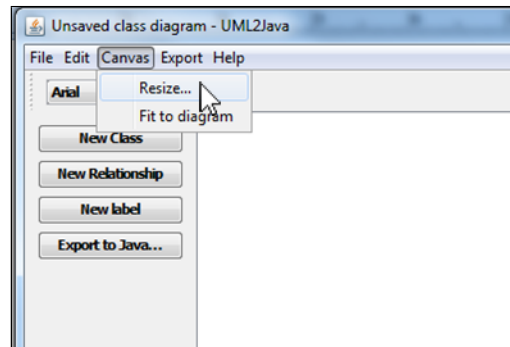
Figure 7: Redoing an Action

3 Editing Canvas Settings

3.1 Resize the Canvas

If you require a different canvas size , you can do this from the top menu, pressing `Canvas → Resize`

(a) Canvas → Resize...

Figure 8: Printing a diagram

3.2 Fitting to Diagram

The canvas menu option also allows you to resize the canvas to a state where all of the current contents of the diagram will be able to be seen with little white space around the resulting design, to achieve this press `Canvas → Fit to Diagram`
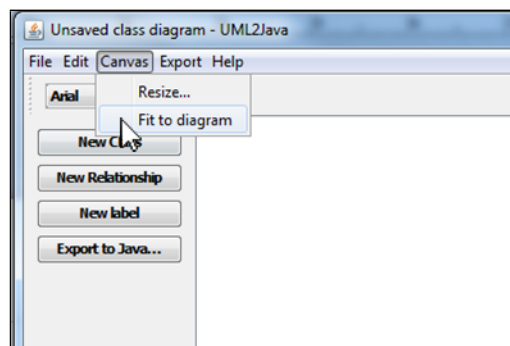
Figure 9: Fit diagram to visible canvas

4 Exporting

4.1 Export to Code

To create the code files of your created diagram, go to the top bar and select `Export → Code` this will generate the .java files of your created diagram, it will take into account any relationships you have created between classes, any variable declarations you have made, and methods you have created. Or you can go to the left menu bar and select `Export to Java` from the list there
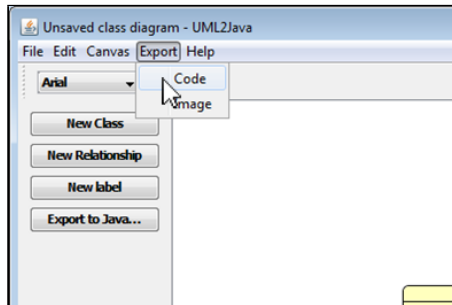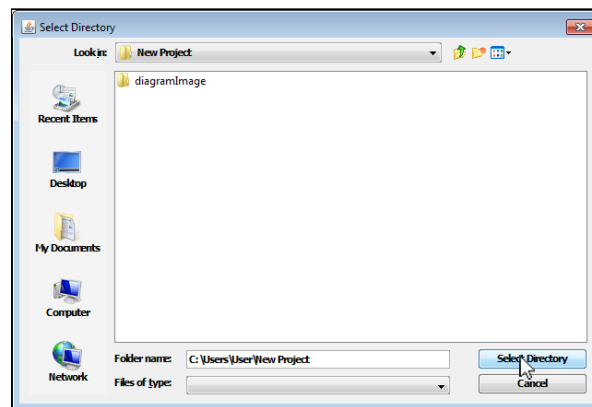

(a) Export → Code
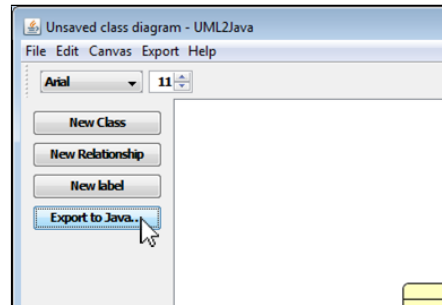
(b) Export to Java...

You will then be asked to select a directory to save the code files to, you can select a existing directory or create a new one
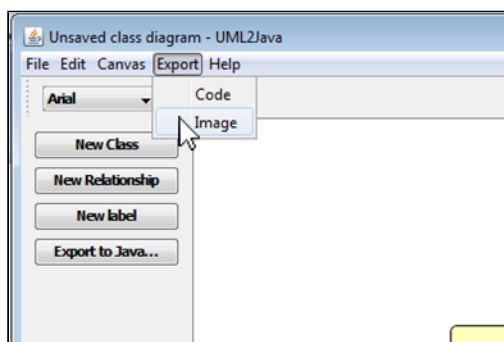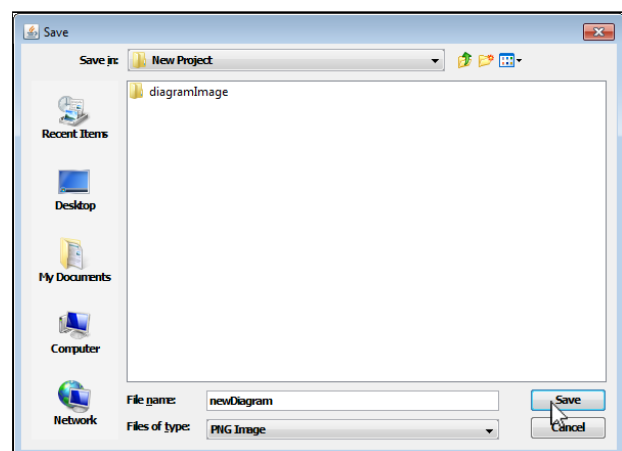

(c) Choose Directory to create files

Figure 10: Exporting to Java code

4.2 Export Image of Diagram

To create an image file of the class diagram you have created, go to `Export → Image` and an save box will appear, where you can select the location of where you wish to save the file and also the file type, either `.png` or `.jpg`
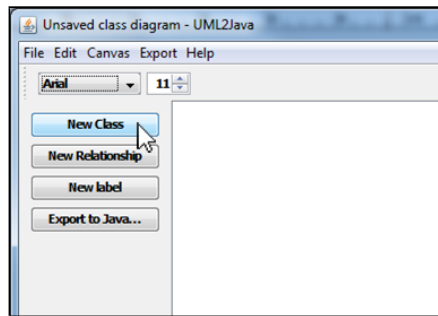

(a) Export → Image

(b) Choose Directory to save image

Figure 11: Export Diagram as Image
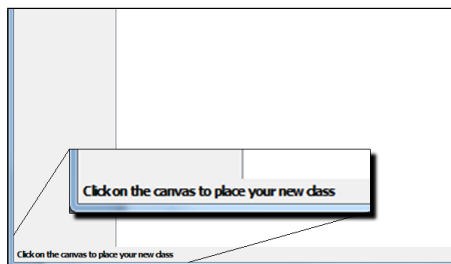
5 Adding Elements to the Class Diagram

5.1 Adding a new class

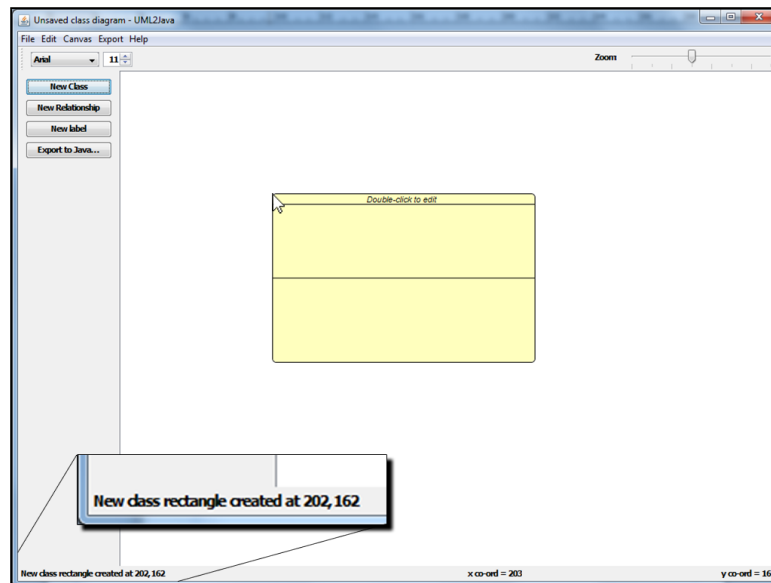To create a new class on the diagram, go to the left-hand menu and select `New Class`

(a) Add new class

To make sure that you have selected to add a new class, once pressed, a message will appear in the status bar at the bottom of the window

(b) Click to create new class

To add the class to the diagram, left-click on the white canvas and your new class will appear

(c) Added Class

You will recieve confirmation via the status bar at the bottom of the screen, giving the x and y co-ordinates of the generated class box

Figure 12: Adding a new class to diagram

5.1.1 Adding Data fields to the new Class

To add a new Data field to the Created Class, `Right Click` on the class, and select `Add data field`, the new data field will then be added to the diagram.

(a) Right-Click → Add data field
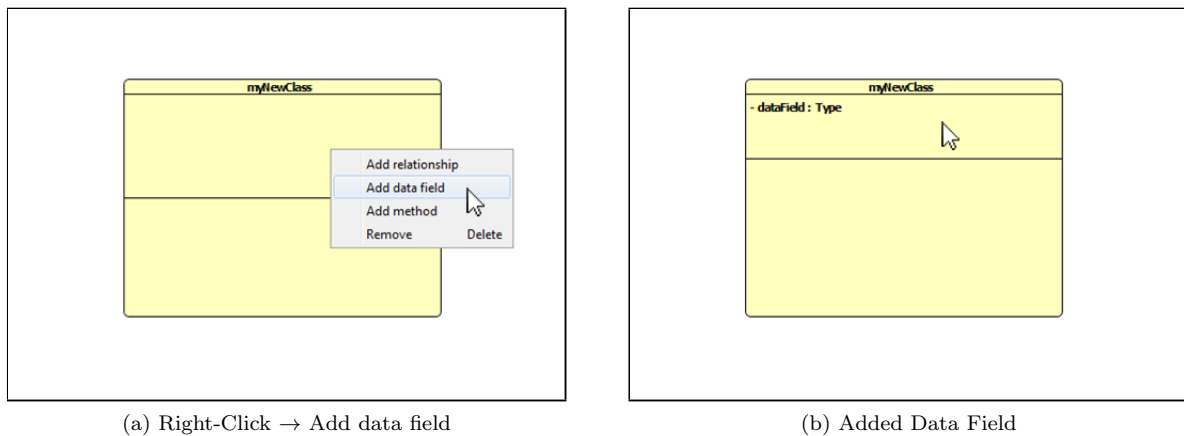

(b) Added Data Field

Figure 13: Adding a new Data Field to the Class

5.1.2 Adding Methods to the new Class

to add a new method to the class, `Right Click` on the class, and select `Add method`, the new method will then be added to the diagram

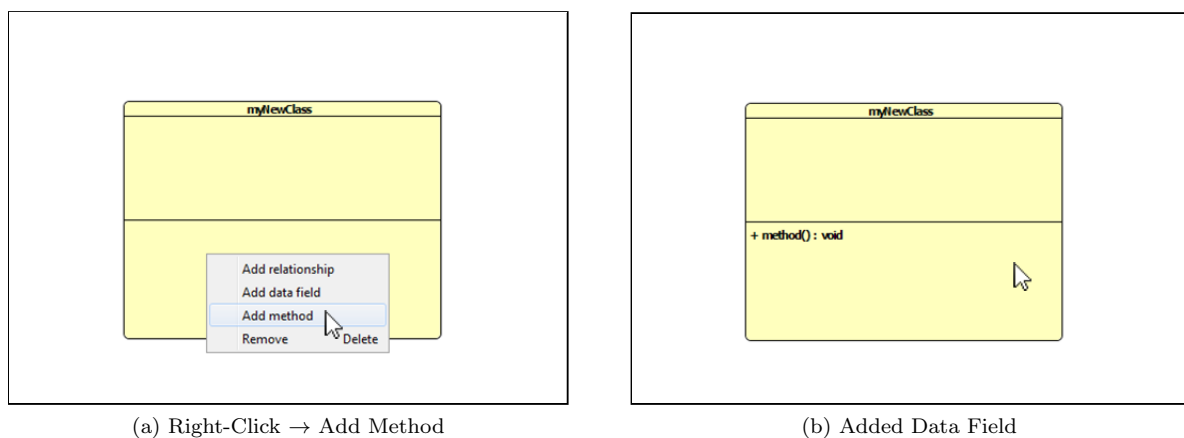(a) Right-Click → Add Method

(b) Added Data Field

Figure 14: Adding a new Method to the Class

5.2 Adding a new Relationship between classes

To add a relationship between two classes, press `New Relationship` from the left-hand menu

6 Editing

6.1 Changing the Class Name

To change the class name of a class added to the diagram *(see Adding new Class)* and Double-Click the class name, the text should highlight and you can then enter the new name, press return to confirm your new Class Name
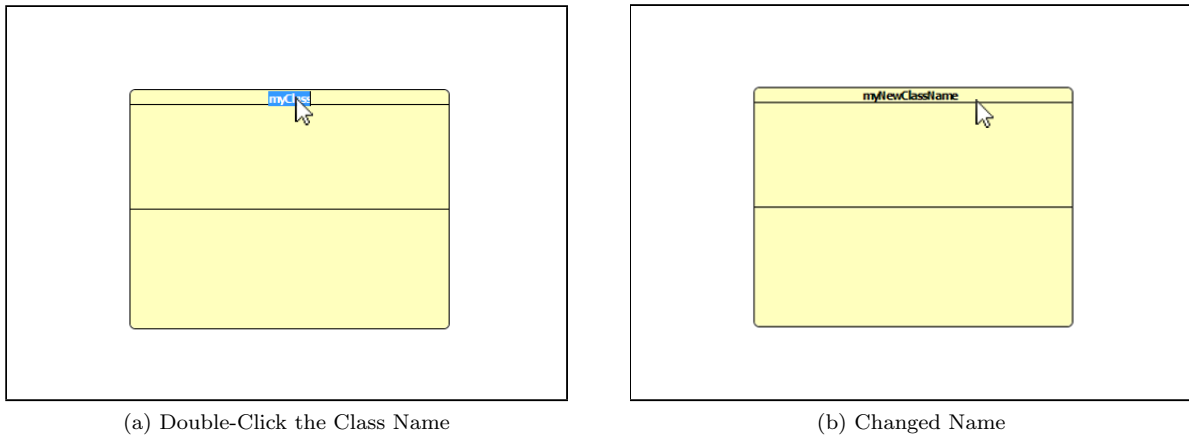

(a) Double-Click the Class Name

(b) Changed Name

Figure 15: Editing the class name of a Class

6.2 Editing a Data Field

To change a data field in a class added to the diagram *(see Adding new Class & Adding data fields)* Double-Click the data field you wish to change, the text should highlight and you can then edit the data field, your edit **MUST** be in the format

(+,-,#) dataFieldName : DataType

or if initialised

(+,-,#) dataFieldName : DataType = initialisation

Press Return ↩ to confirm your new Class Name

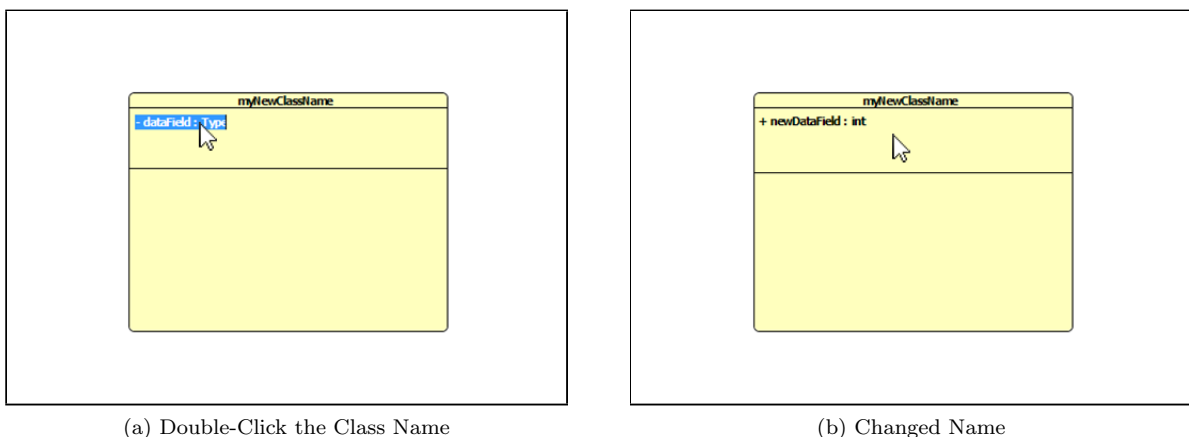(a) Double-Click the Class Name

(b) Changed Name

Figure 16: Editing a data field in a class

6.3   Editing a Method in a Class

To change a method in a class added to the diagram *(see Adding new Class & Adding Methods)* Double-Click the method you wish to change, the text should highlight and you can then edit the method definition, you edit *MUST* be in the format

(+,-,#) methodName() : Return Type

or if arguments are to be passed into the method

(+,-,#) methodName(arg1 : Arg1Type, arg2 : Arg2Type...) : ReturnType
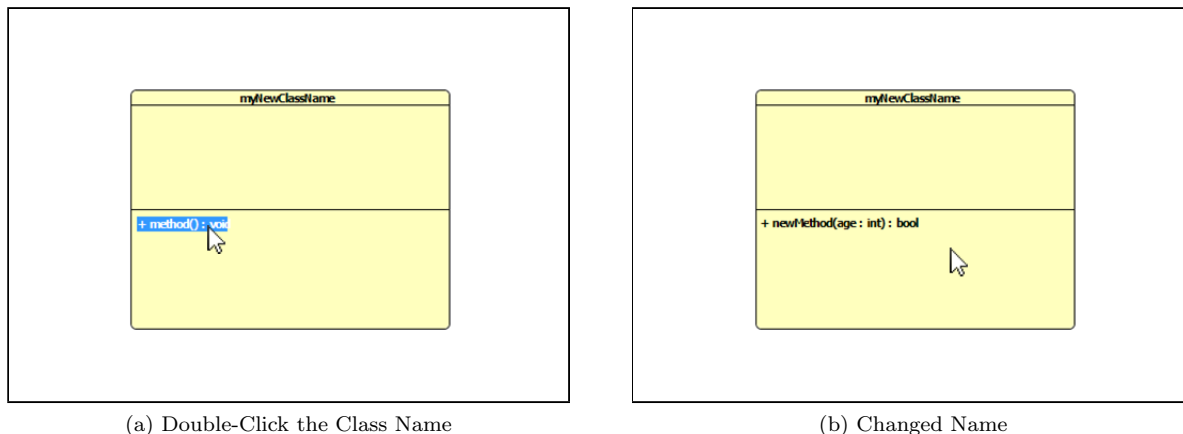
Press Return ↩ to confirm your new Class Name

(a) Double-Click the Class Name

(b) Changed Name

Figure 17: Editing a data field in a class

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