

INSY 4306 ADVANCED SYSTEMS DEVELOPMENT

ASSINGMENT -4

20 points

1. INSTRUCTIONS

- **For the late submissions, 5% of the total points will be deducted per hour automatically on Canvas.**
- You can only use the techniques that you have learned so far. Other techniques will not be accepted. **For other techniques, 10 pts will be deducted.**
- You can drag and drop components. In this assignment, you can use a .java form.
- In this assignment, upload the following file:
 - **YourFirstNameYourLastName.zip /.rar [including AddressScreen.java, AddressScreen.form (if you use a Java form), Database.java, AddressOptions.java, Address.java]**
- Each question is **independent** of each other.
- **Do not forget to add comments to explain how your codes are working! Short comments are acceptable.**
- **Write your codes individually! Do not copy of any of them from someone else!**
- **NOTE: If you are using any IDE (Netbeans, Eclipse, etc.), please delete the statement **package xxxxx;** (and save it again), from your application. Otherwise, I will get a compilation error, and you will lose 1 pt for each file giving a compilation error. It is your responsibility.**

2. GRADING POLICY

- **Case 1:**
 - For each question:
 - I will compile your .java files. **If any compilation error occurs, 1 pt will be deducted from each file including compilation errors.**
 - After that, I will check your algorithms whether they are correct or not. For example; if it says find odd and even numbers. I will check whether it really finds both even and odd numbers. **This part will be evaluated based on your work.**
 - You can only use the techniques that you have learned so far. Other techniques will not be accepted. **For other techniques, 10 pts will be deducted.**
 - Do not drag and drop components. **It is not acceptable. You will get 0 point.**
 - Additionally, comments will be checked whether they clearly and briefly explain what you have done. **If comments are missing or not clear, enough, or brief 1 pt will be deducted.**
- **Case 2:**
 - For each question:
 - If there is not any compilation error:
 - I will try each case scenario as stated in each question. For example; if it says find odd and even numbers. I will try both even and odd numbers. **This part will be evaluated based on your work.**
 - You can only use the techniques that you have learned so far. Other techniques will not be accepted. **For other techniques, 10 pts will be deducted.**
 - Additionally, comments will be checked whether they clearly and briefly explain what you have done. **If comments are missing or not clear, enough, or brief 1 pt will be deducted.**
- **Case 3:**
 - **If you do not upload a .java file, I will not evaluate your answer.**
- **Case 4:**
 - **If it is determined that you copy the codes from someone else, you will get 0 pt.**

QUESTIONS

Note: In each question, assume that the user enters correct inputs. You can drag and drop components.

1. Write a simple Address Book application. (20 pts).
 - a. Use addressbook.sql to set up a database. **Your database name will be: addressbook.**
 - b. Your path must be: **jdbc:derby://localhost:1527/addressbook**
 - c. **your database username will be: uta and database password will be: 12345**

NOTE: If you get the error of no suitable driver found for derby, please refer to the document “Java DB Setup- Troubleshooting Section”

- d. Create a database class to keep related instance variables of your database.
- e. Create an address class to keep related instance variables for an address. Add a constructor and set and get methods.
- f. Create an AddressOptions class to keep all related methods.
- g. Create a Java form which will be AddressScreen. (You can prefer to create .java file instead of a java form. Then, you will not upload a java form. However, when you create a java form, Netbeans also creates a .java file for you under the source folder. So, you will upload both.)
- h. You will have 6 JLabels, 4 JTextFields, 1 JTable, and 4 JButtons. Check the figure below.
- i. Title will be “Address Book”.
- j. In one of the labels, display a title which is “Address Book”.
- k. When the program runs, in the table, you must list all related data. If the table is blank, do not display any row.
- l. Cells must not be editable and resizable.
- m. JTable must displayed in a JPanel.
- n. Set a different background color for your JPanel.

Address ID	First Name	Last Name	E-mail	Phone Number
1	Mike	Green	demo1@deitel.com	555-5555
2	Mary	Brown	demo2@deitel.com	555-1234

- o. A user fills first name, last name, e-mail, and phone number to add an address, and then click “add address” button. If any text field is blank, you will display a message that the user must supply all related values.
- p. If text fields do not include any null value, a new address will be added, all data including new one, will be listed in the table. All text fields will be cleared. You will also display a message that the address is added successfully. See the figures below.

Address Book

Address Book

First Name:

Add Address

Last Name:

Update Address

E-mail:

Delete Address

Phone Number:

Delete All

You must enter a first name,last name, e-mail, and phone number

Address ID	First Name	Last Name	E-mail	Phone Number
1	Mike	Green	demo1@deitel.com	555-5555
2	Mary	Brown	demo2@deitel.com	555-1234

Address Book

Address Book

First Name:

Add Address

Last Name:

Update Address

E-mail:

Delete Address

Phone Number:

Delete All

New address is successfully added!

Address ID	First Name	Last Name	E-mail	Phone Number
1	Mike	Green	demo1@deitel.com	555-5555
2	Mary	Brown	demo2@deitel.com	555-1234
4	Ezgi	Akar	ezgi.akar@uta.edu	555-5555

- q. To update an address, the user must select a row and the table is not blank. You must control them and display a message that the table is blank, or a row is not selected. When a user clicks on a row, address details will be displayed in the related text fields. See the figures below.
- r. The user updates values in any text field and then clicks “Update Address”. Then, the address is updated.
- s. When an address is updated, you must clear the text fields. You must display a message that the address is updated successfully. You must list updated version of the data in the table.

Address Book

First Name:

Mary

Last Name:

Brown

E-mail:

demo2@deitel.com

Phone Number:

555-1234

Add Address

Update Address

Delete Address

Delete All

New address is successfully added!

Address ID	First Name	Last Name	E-mail	Phone Number
1	Mike	Green	demo1@deitel.com	555-5555
2	Mary	Brown	demo2@deitel.com	555-1234
4	Ezgi	Akar	ezgi.akar@uta.edu	555-5555

Address Book

First Name:

Last Name:

E-mail:

Phone Number:

Address is successfully updated

Address ID	First Name	Last Name	E-mail	Phone Number
1	Mike	Green	demo1@deitel.com	555-5555
2	Mary	Brown2	demo2@deitel.com	555-1234
4	Ezgi	Akar	ezgi.akar@uta.edu	555-5555

- t. To delete an address, the user must select a row and the table is not blank. You must control them and display a message that the table is blank, or a row is not selected. When a user clicks on a row, address details will be displayed in the related text fields. See figures below.
- u. When an address is deleted, you must clear the text fields. You must display a message that the address is deleted successfully. You must list updated version of the data in the table.
- v. If the user clicks “Delete All” button, you will delete all data in the table and a blank table will be listed. Also, display a message that all addresses are deleted successfully. However, if the table is already a blank table, you will display a message that the table is blank. Check the figures below.

Address Book

Address Book

First Name:

Add Address

Last Name:

Update Address

E-mail:

Delete Address

Phone Number:

Delete All

All addresses are successfully deleted!

Address ID	First Name	Last Name	E-mail	Phone Number
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Address Book

First Name:

Last Name:

E-mail:

Phone Number:

Add Address

Update Address

Delete Address

Delete All

Table is already blank

Address ID	First Name	Last Name	E-mail	Phone Number
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- w. Change the icon of your JFrame. Use the icon provided to you. In this assignment, it is your responsibility to learn how to change an icon of a JFrame component.

Address Book

First Name:

Last Name:

E-mail:

Phone Number:

Add Address

Update Address

Delete Address

Delete All

Address ID	First Name	Last Name	E-mail	Phone Number
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