Essential Mathematics for AI

Faculty Name: Information Technology
Module Name: Advanced Java
Module Code: JD522

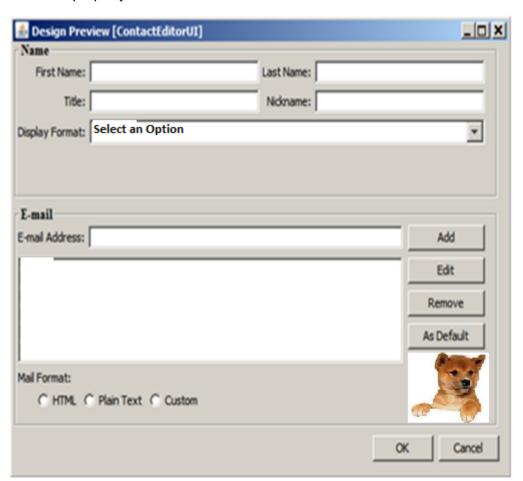| Date:	
Student Name:	
ID Number:	

Instructions:

- Recall to keep a copy of all submitted assignments.

- All work must be typed using Microsoft Word and convert the word document to PDF before uploading to COLCampus.

- Kindly note that you will be evaluated on your writing skills in all your assignments.

- Negative marking will be applied if you are found guilty of plagiarism, poor writing skills or if you have applied incorrect or insufficient referencing.

- Each assignment must include a cover page, table of contents and full bibliography, based on Harvard referencing style.

- Students are not allowed to offer their work for sale or to purchase the work of other students. This includes the use of professional assignment writers. If this should happen, CTU training Solutions reserves the right not to accept future submissions from a student.

- Use Java NetBeans to complete the following formative.

- Total Marks: 50

Question 1

Design the below interface using Java NetBeans ensure that the design looks exactly shown below. You can use any picture you want on the interface. To add title borders to the JPanels:

1.   Select the top JPanel in the GUI Builder.
2.   In the Properties window, click the ellipsis button (...) next to the Border property.
3.   In the JPanel Border editor that appears, select the TitledBorder node in the Available Borders pane.
4.   In the Properties pane below, enter Name for the Title property.
5.   Click the ellipsis (...) next to the Font property, select Bold for the Font Style, and enter 12 for the Size. Click OK to exit the dialogs.
6.   Select the bottom JPanel and repeat steps 2 through 5, but this time right-click the JPanel and access the Properties window using the pop-up menu. Enter E-mail for the Title property.

[20]

Question 2

[80]

Develop a Java GUI application that will produce an investment report based on various criteria, such as investment amount, investment type and term. On the form create two text fields, one to capture the customer name and another to capture the amount to invest. Also create a combo box for the user to select the investment type which will be moderate or aggressive. Finally add three radio buttons for the user to select the term which is five years, 10 years or 15 years.

You are also required to create a menu system which will allow the user to exit the application under the file menu and calculate and clear under the tools menu. Marks will be allocated to the presentation and effectiveness of the layout.

The application must calculate the compound interest of the amount entered at the required investment type. Moderate investments receive 10% interest, while the aggressive receives 15% interest per year for the selected term. A sample output based on the selection above would be:

Message   ✕

i   INVESTMENT REPORT

CUSTOMER NAME: Jeff Jones
ORIGINAL AMOUNT: R 5000.0
YEARS INVESTED: 15
FINAL AMOUNT: R 40685.31

OK

The formula for compound interest is

$$A = P(1 + \frac{r}{n})^{nt}$$

A = final amount

P = initial principal balance

r = interest rate

n = number of times interest applied per time period

t = number of time periods elapsed

Completed Declaration of Authenticity

I _____ hereby
                                    (FULL NAME)

declare that the contents of this assignment _____ is entirely my own
work except for the following documents: (List the documents and page numbers of work in this
portfolio that were generated in a group)

Activity	Date

Signature: _____ Date: _____