

FINAL EXAM ODD SEMESTER ACADEMIC YEAR 2021/2022
STUDY PROGRAM INFORMATION SYSTEMS
FACULTY OF ENGINEERING AND INFORMATICS
UNIVERSITAS MULTIMEDIA NUSANTARA

Subject	: Visual Programming (LAB)	Date	:
Lecturer(s)	: Rudi Sutomo,S.Kom.,M.Si.,M.Kom.	Time	:
Form	: Essay / Project	Type	: Onsite / Takehome

EXAM CONDITIONS / INSTRUCTIONS:

Please answer the following questions clearly and meaningfully. Answers are collected in PDF format with the name [NIM_NAME_CLASS].pdf.

COURSE SUB LEARNING OUTCOMES (SUB-CLO):

SUB LEARNING OUTCOMES (SUB-CLO)		ELO
Code	Description	
CLO4-Sub-CLO8	Students implement the concept of components in the GUI in programming (C6).	ELO H
CLO4-Sub-CLO9	Students make applications related to database queries (C6)	ELO H
CLO4-Sub-CLO10	Students make applications related to database manipulation (C6)	ELO H
CLO4-Sub-CLO11	Students make applications with the concept of link that are connected to the database (C6)	ELO H
CLO5-Sub-CLO12	Students make a report making application with crystal report (C6)	ELO H
CLO5-Sub-CLO13	Students make a report filter creation application with crystal report (C6)	ELO H
CLO6-Sub-CLO14	Students create applications to manipulate files (A5)	ELO H

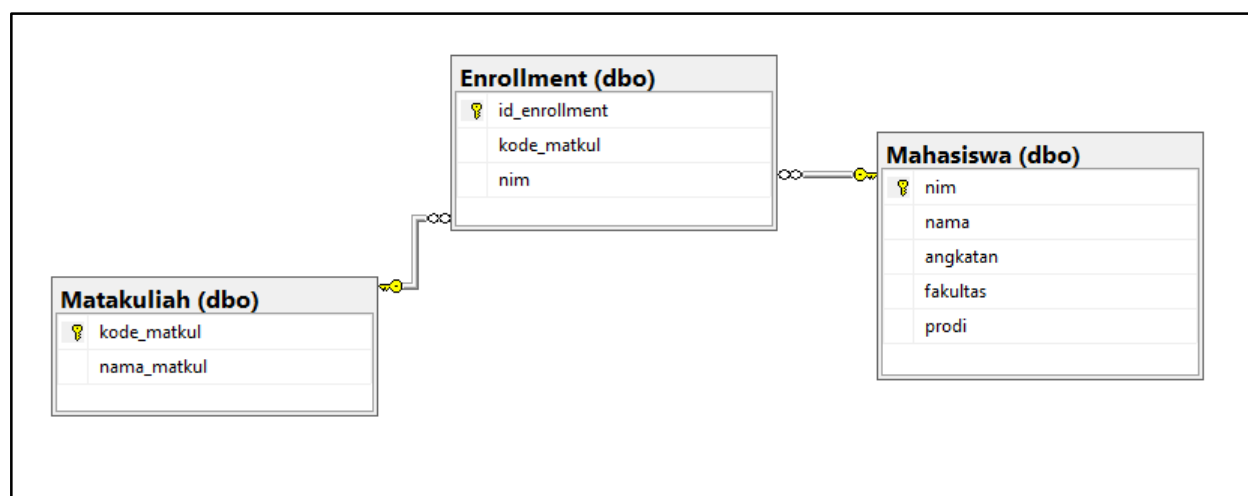
PROBLEM/QUESTIONS:

1. Question 1: CLO4-Sub-CLO8 & CLO4-Sub-CLO9 & CLO4-Sub-CLO10 & CLO4-Sub-CLO11
Weight (40%)

Make a student management Windows Form application, in the application there are several features, as follows:

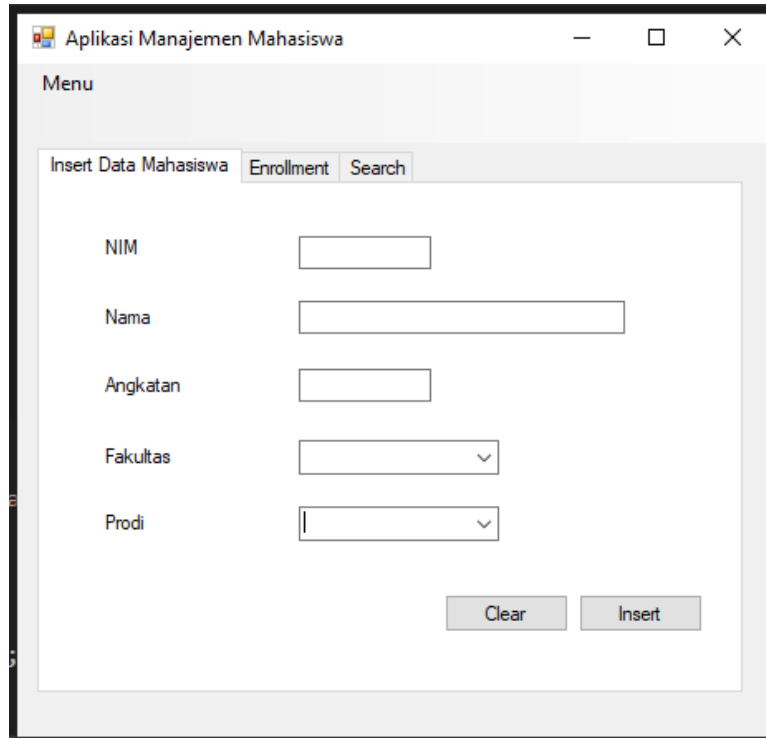
- Insert student data
- Enroll (registration) students to courses
- Search courses that have been taken by one student based on NIM

There are 3 database tables that need to be created: Student, Course, and Enrollment. The Enrollment table has FK to the Students and Courses table. Example of table relation in database:

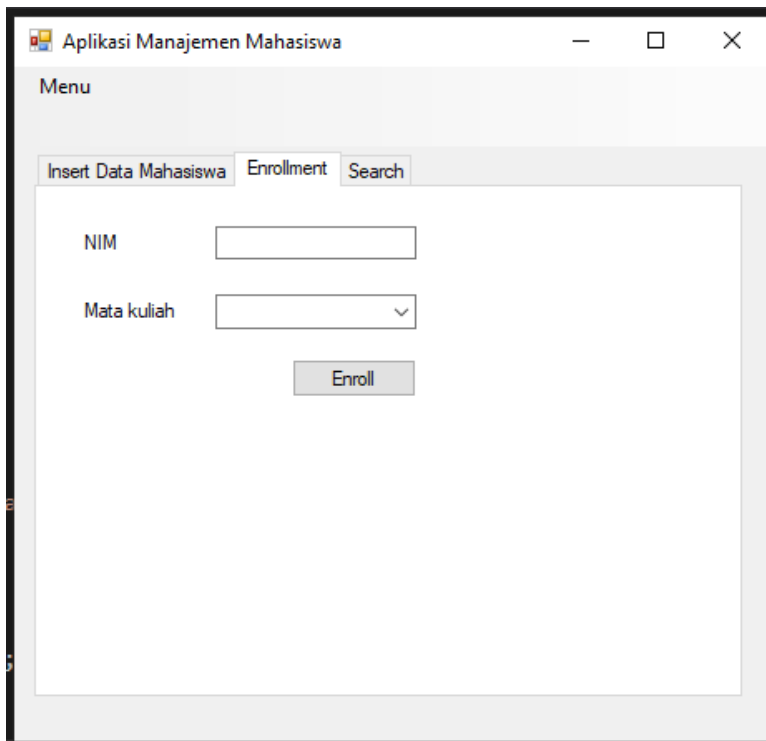


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The final result of the application is as follows:

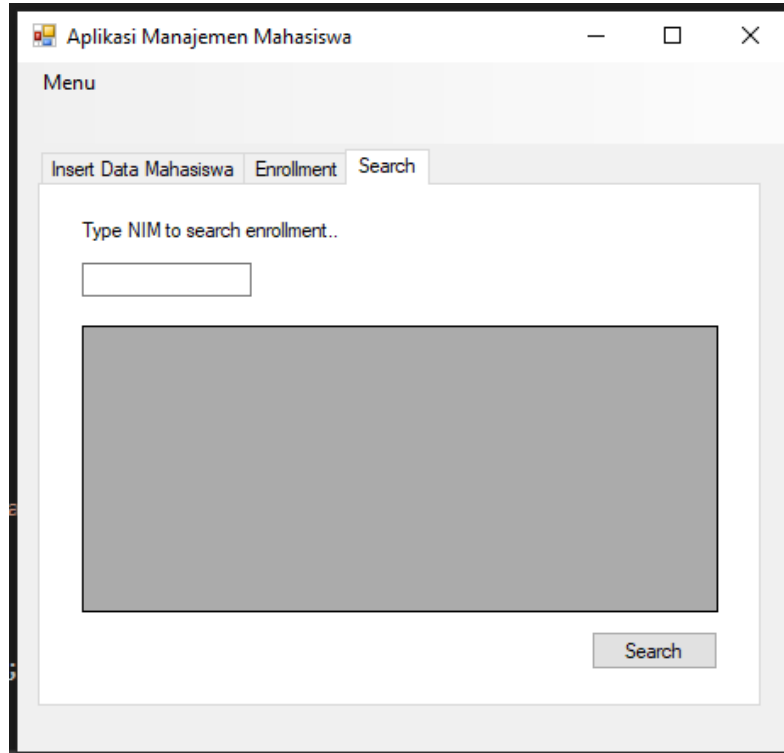


The screenshot shows a window titled "Aplikasi Manajemen Mahasiswa" with a "Menu" bar. The "Insert Data Mahasiswa" tab is active, showing a form with the following fields: NIM (text input), Nama (text input), Angkatan (text input), Fakultas (dropdown menu), and Prodi (dropdown menu). At the bottom right of the form are "Clear" and "Insert" buttons.



The screenshot shows the same window with the "Enrollment" tab active. The form contains two fields: NIM (text input) and Mata kuliah (dropdown menu). An "Enroll" button is located at the bottom center of the form.

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Use TabControl to make it easier for users to choose the desired feature. Faculty ComboBox is filled with: FTI, DKV, Ilkom, and Business. The Study Program ComboBox is filled in based on the study programs contained in each faculty (you may use the example of the study program at UMN). ComboBox Courses are filled in from the Matkul_name field in the Matkul table (use loops to fill in the ComboBox from the database). Use DataGridView to display enrollment search results based on student NIM.

(Hint: use ADO.NET SqlCommand to perform CRUD procedures with SQL Server)

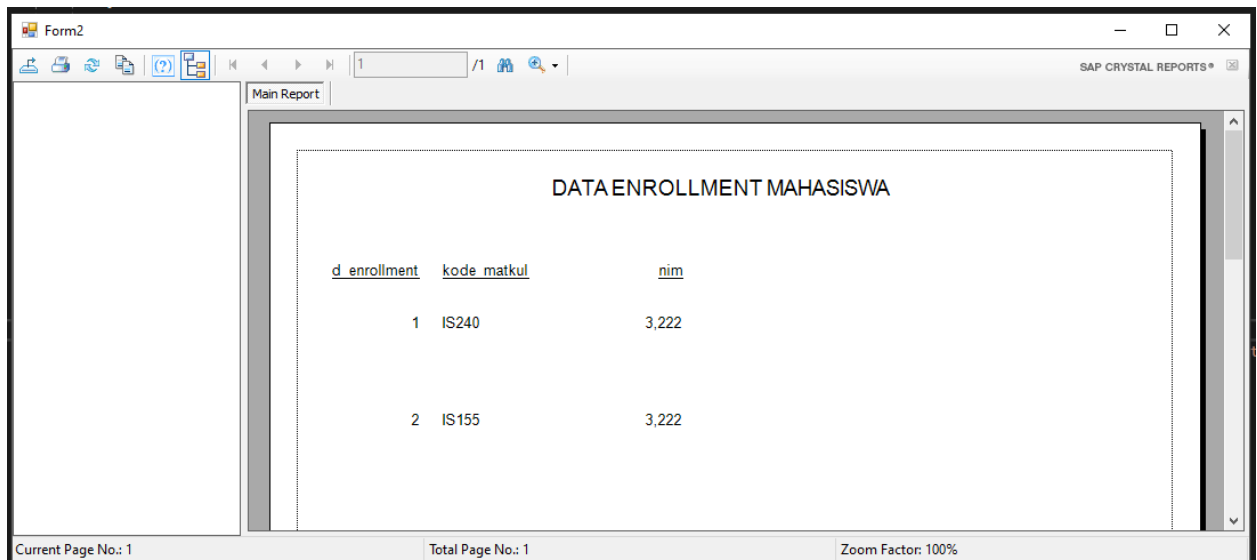
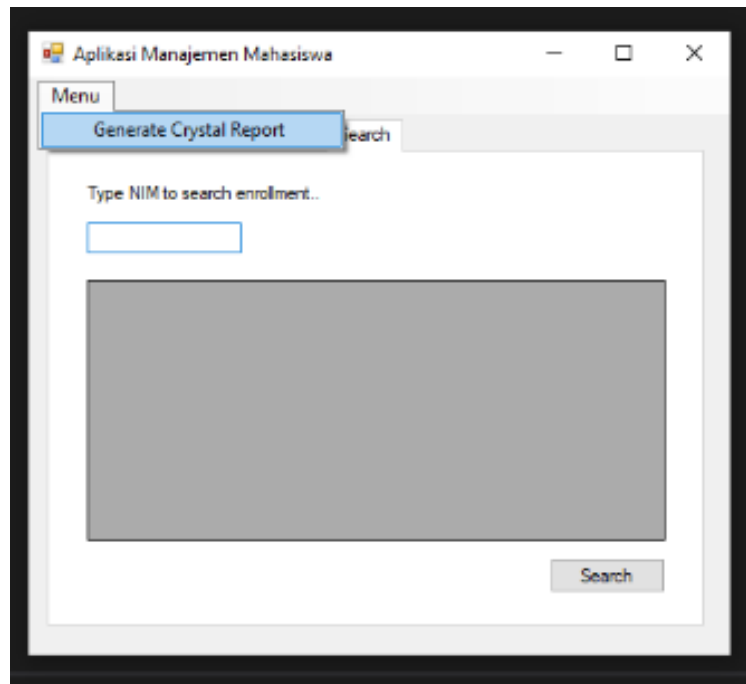
ASSESSMENT RUBRIC (per question):

Rated aspect	Assessment criteria				
	Very Poor < 45	Poor 45-54	Satisfactory 55-69	Good 70-84	Excellent (Score ≥ 85)
Invalid Project		The program runs but no processes or functions are running	The program runs but the process or function is running but only part of it	The program runs but all processes or functions are running but there are still bugs	The program runs but the processes or functions that run all and smoothly

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2. Question 2: CLO4-Sub-CLO12 & CLO4-Sub-CLO13 & CLO4-Sub-CLO14 Weight (60%)

Add MenuStrip to the student management application that has been created, then create a menu to generate student enrollment data reports using CrystalReport.





Use the CrystalReportViewer to display the results of the CrystalReport report on the second form.

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ASSESSMENT RUBRIC (per question):

Rated aspect	Assessment criteria				
	Very Poor < 45	Poor 45-54	Satisfactory 55-69	Good 70-84	Excellent (Score ≥ 85)
	Invalid answer	2 out of 3 criteria do not match	1 of 3 criteria does not match	3 criteria are answered correctly but there are parts that are slightly inappropriate	Can make project programming well and perfect

References:	Created by:	Approved by:
Material Week 1-7	<p>on behalf of the Lecturer Team</p>  <p>(Rudi Sutomo, S.Kom., M.Si., M.Kom.) Course Coordinator</p>	 <p>(Ririn Ikana Desanti, S.Kom., M.Kom.) Head of Study Program</p>