

Form1

Programs Courses Students Enrollments

	Programs ID ▲	ProgName
▶	P0001	Computer Programming
	P0002	Computer Science
*		

Form1

Programs Courses Students Enrollments

	Courses ID ▲	CName	Programs ID
▶	C000001	Database 1	P0002
	C000002	Web Development	P0002
	C000003	Information System	P0001
	C000004	Scripting Language	P0001
*			

Form1

Programs	Courses	Students	Enrollments
	SId	Student Name	Programs ID
▶	S000000001	Mary	P0001
	S000000002	Jane	P0001
	S000000003	John	P0001
	S000000004	Brian	P0001
	S000000005	Anne	P0002
	S000000006	James	P0002
	S000000007	Eddy	P0002
	S000000008	Harry	P0002
*			

Form1

Programs	Courses	Students	Enrollments		
	Student ID ▲	Course		Student Name	CName
▶	S000000001	C00000	Insert	Mary	Web Development
	S000000001	C00000	Update	Mary	Information System
	S000000002	C000003	Delete	Jane	Information System
	S000000006	C000002	Final Grade	James	Web Development
	S000000008	C000001		Harry	Database 1
•					

When I insert a new value in table "Programs"

Form1

Programs Courses Students Enrollments

	Programs ID ▲	ProgName
	P0001	Computer Programming
	P0002	Computer Science
	P0003	Business Management
»*		

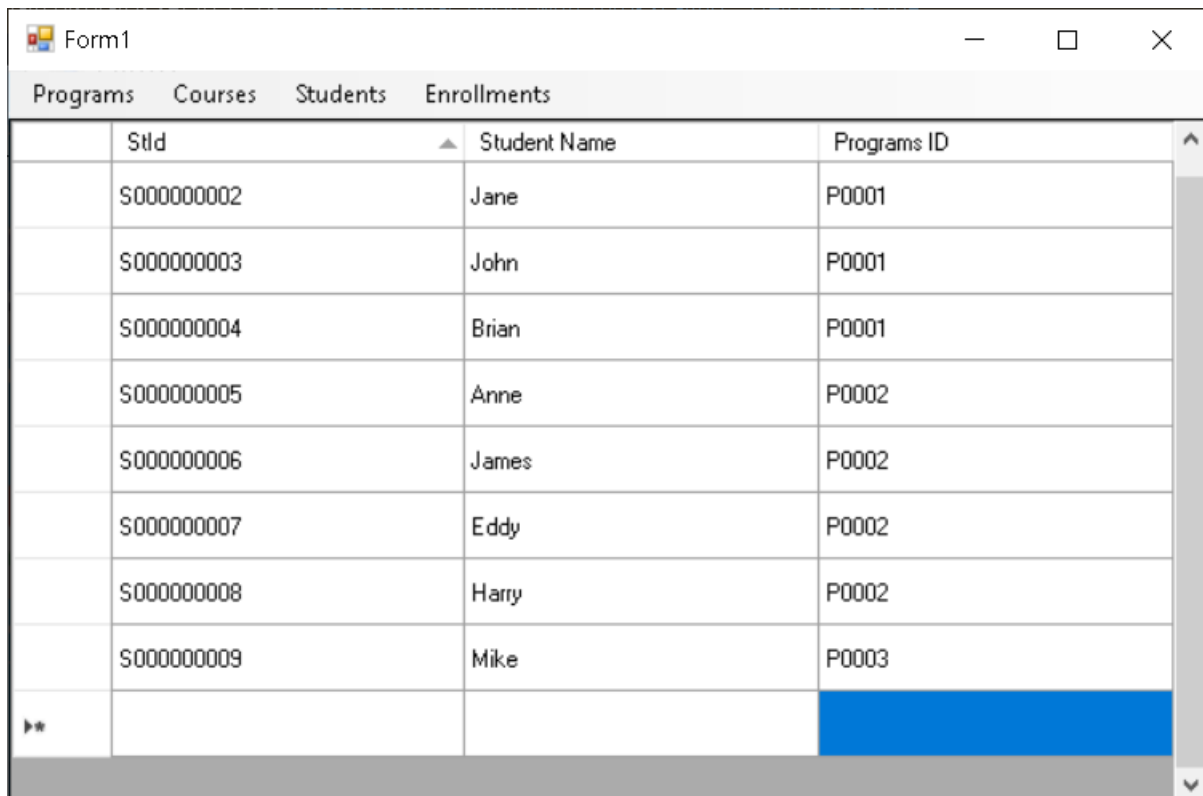
When I insert a new value in table "Courses"

Form1

Programs Courses Students Enrollments

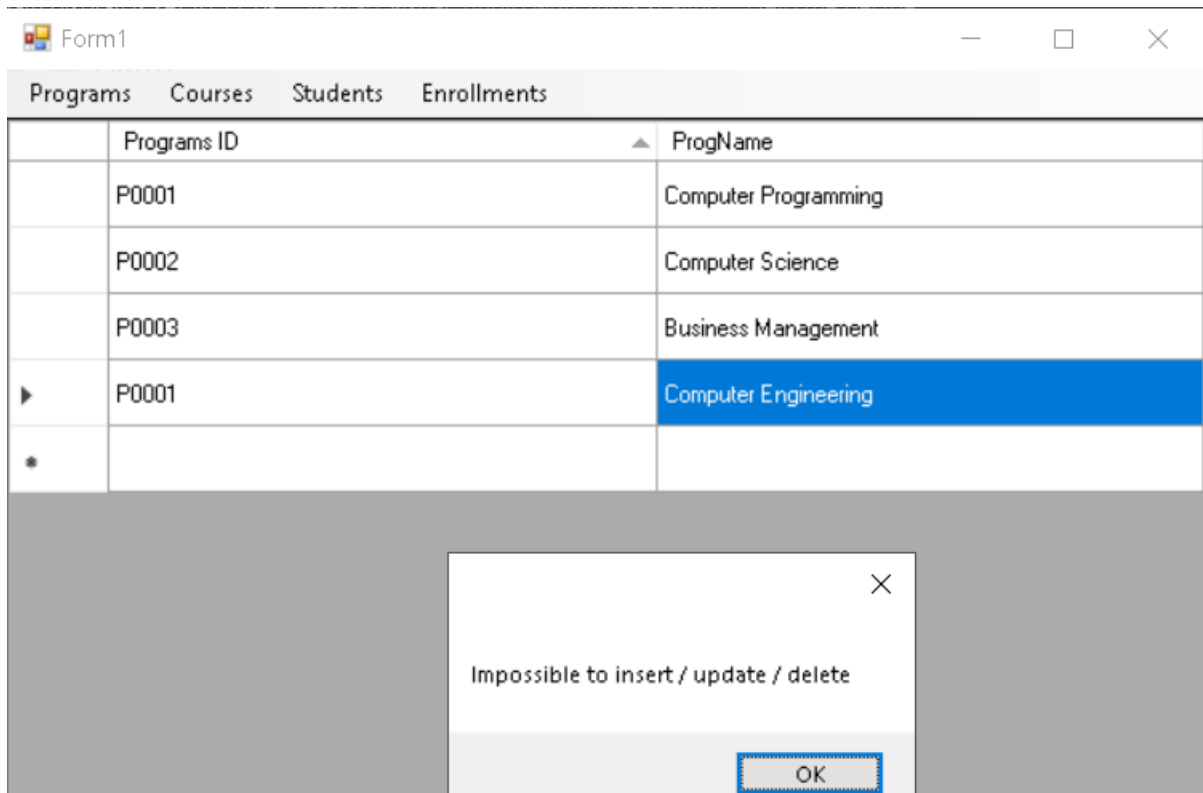
	Courses ID ▲	CName	Programs ID
	C000001	Database 1	P0002
	C000002	Web Development	P0002
	C000003	Information System	P0001
	C000004	Scripting Language	P0001
	C000005	Accounting	P0003
»*			

When I insert a new value in table “Students”



SId	Student Name	Programs ID
S000000002	Jane	P0001
S000000003	John	P0001
S000000004	Brian	P0001
S000000005	Anne	P0002
S000000006	James	P0002
S000000007	Eddy	P0002
S000000008	Harry	P0002
S000000009	Mike	P0003
▶*		

When I try to insert a value with an existing id in table “Programs”



Programs ID	ProgName
P0001	Computer Programming
P0002	Computer Science
P0003	Business Management
▶ P0001	Computer Engineering
*	

Impossible to insert / update / delete  
OK

When I try to insert a value with an existing id in table “Courses”

Form1

Programs Courses Students Enrollments

	Courses ID	CName	Programs ID
	C000001	Database 1	P0002
	C000002	Web Development	P0002
	C000003	Information System	P0001
	C000004	Scripting Language	P0001
	C000005	Accounting	P0003
▶	C000001	Multi-tier	P0002
•			

Impossible to insert / update / delete

OK

When I try to insert a value with an existing id in table “Students”

Form1

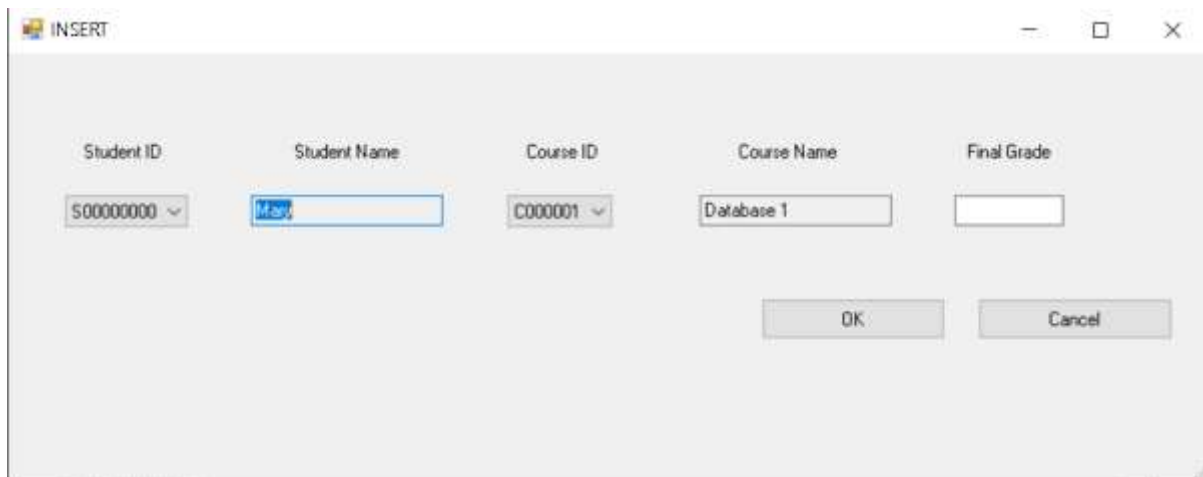
Programs Courses Students Enrollments

	SId	Student Name	Programs ID
	S000000001	Mary	P0001
	S000000002	Jane	P0001
	S000000003	John	P0001
	S000000004	Brian	P0001
	S000000005	Anne	
	S000000006	James	
	S000000007	Eddy	
	S000000008	Harry	
	S000000009	Mike	P0003
▶	S000000001	Cedric	P0001
•			

Impossible to insert / update / delete

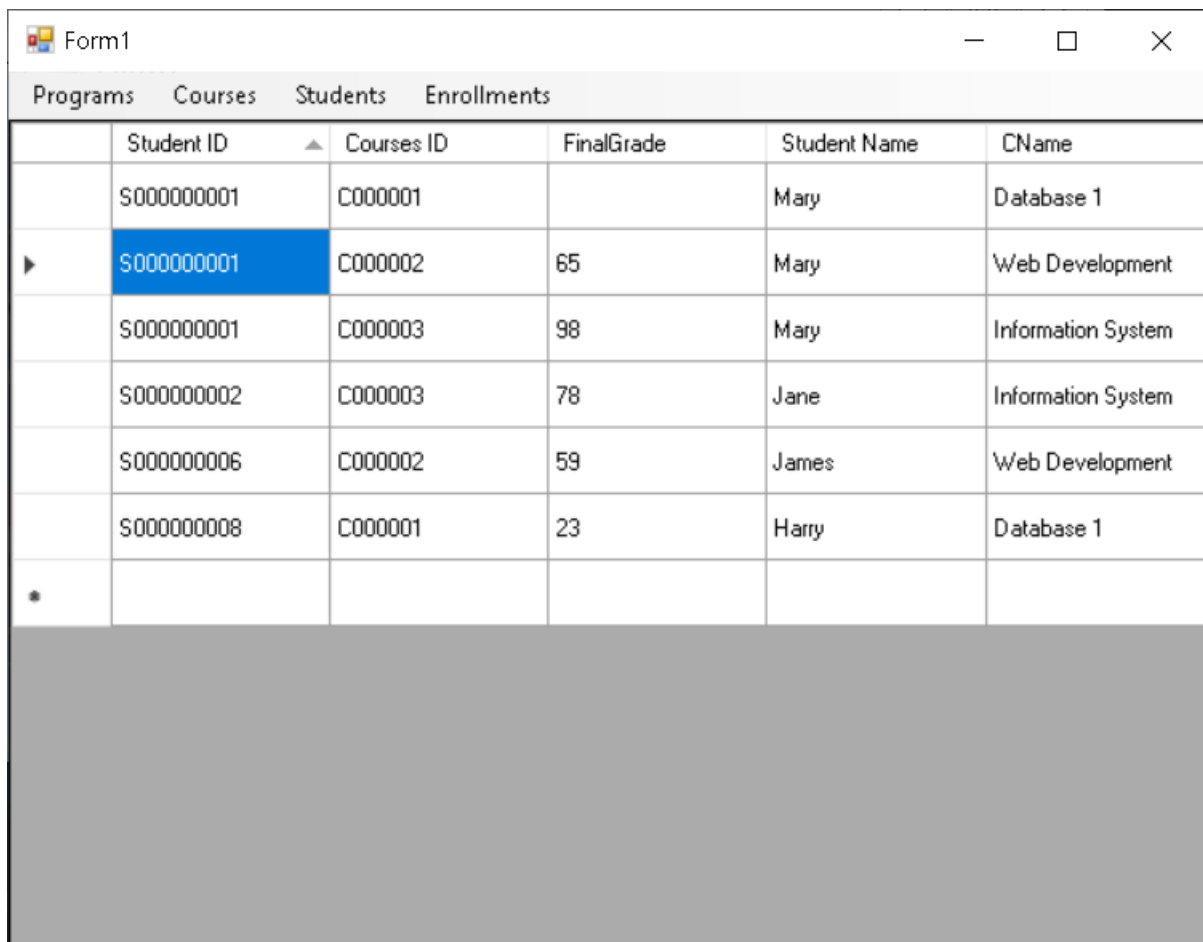
OK

On the enrolment table, if I select "INSERT"



A dialog box titled "INSERT" with a standard Windows window frame. It contains five input fields arranged horizontally: "Student ID" (a dropdown menu showing "S00000000"), "Student Name" (a text box containing "Mary"), "Course ID" (a dropdown menu showing "C000001"), "Course Name" (a text box containing "Database 1"), and "Final Grade" (an empty text box). At the bottom right, there are two buttons: "OK" and "Cancel".

Click Ok



A window titled "Form1" with a standard Windows window frame. It displays a table with the following columns: "Student ID", "Courses ID", "FinalGrade", "Student Name", and "CName". The table has 7 rows of data. The second row is highlighted in blue. Below the table, there is a large grey rectangular area.

	Student ID	Courses ID	FinalGrade	Student Name	CName
	S000000001	C000001		Mary	Database 1
▶	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

If I try to delete a row with an assigned final grade

Form1

Programs Courses Students Enrollments

	Student ID ▲	Courses ID	FinalGrade	Student Name	CName
	S000000001	C000001		Mary	Database 1
▶	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

Form1

Programs Courses Students Enrollments

	Student ID ▲	Courses ID	FinalGrade	Student Name	CName
	S000000001	C000001		Mary	Database 1
▶	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

Cannot delete enrollments with assigned grades.

OK

If I try to update a row with an assigned final grade

The screenshot shows a window titled "Form1" with a tabbed interface. The "Enrollments" tab is active, displaying a table with the following columns: Student ID, Courses ID, FinalGrade, Student Name, and CName. The table contains several rows of data. A modal dialog box is overlaid on the table, containing the text: "To update this line, final grade value must be removed first." and an "OK" button.

Student ID	Courses ID	FinalGrade	Student Name	CName
S000000001	C000001		Mary	Database 1
S000000001	C000002	65	Mary	Web Development
S000000001	C000003	98	Mary	Information System
S000000002	C000003	78	Jane	Information System
S000000006	C000003	50	Jane	Web Development
S000000008				Database 1

If I try to update a row with an unassigned final grade

The screenshot shows a window titled "UPDATE" with a form for updating a row. The form has five fields: Student ID, Student Name, Course ID, Course Name, and Final Grade. The Student ID field contains "S000000001", Student Name contains "Mary", Course ID contains "C000001", and Course Name contains "Database 1". The Final Grade field is empty. There are "OK" and "Cancel" buttons at the bottom right.

Student ID	Student Name	Course ID	Course Name	Final Grade
S000000001	Mary	C000001	Database 1	



On the enrolment table, if I select final grade and input a number in between 0 and 100

FINALGRADE

Student ID: S000000001 Student Name: Mary Course ID: C000001 Course Name: Database 1 Final Grade: 56

OK Cancel

Form1

Programs Courses Students Enrollments

	Student ID	Courses ID	FinalGrade	Student Name	CName
▶	S000000001	C000001	56	Mary	Database 1
	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

If I input the final grade outside the range (0-100)

The image displays two screenshots of a software application titled "FINALGRADE".

The top screenshot shows the application's main form with the following fields and values:

Student ID	Student Name	Course ID	Course Name	Final Grade
500000000	Jane	C000001	Database 1	200

At the bottom right of the form are "OK" and "Cancel" buttons.

The bottom screenshot shows the same form, but with a validation error dialog box displayed in the foreground. The dialog box contains the message: "Business Layer: Final Grade must be an integer between 0 and 100". The "OK" button in the dialog box is highlighted with a blue border.

If I try to delete a row with an unassigned final grade

Form1

Programs	Courses	Students	Enrollments		
	Student ID ▲	Courses ID	FinalGrade	StName	CName
	S000000001	C000001	56	Mary	Database 1
	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
▶	S000000001	C000005		Mary	Accounting
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

Form1

Programs	Courses	Students	Enrollments		
	Student ID ▲	Course	Final Grade	StName	CName
	S000000001	C000001		Mary	Database 1
	S000000001	C000002		Mary	Web Development
	S000000001	C000003	98	Mary	Information System
▶	S000000001	C000005		Mary	Accounting
	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					

Form1

Programs	Courses	Students	Enrollments		
	Student ID ▲	Courses ID	FinalGrade	StName	CName
	S000000001	C000001	56	Mary	Database 1
	S000000001	C000002	65	Mary	Web Development
	S000000001	C000003	98	Mary	Information System
▶	S000000002	C000003	78	Jane	Information System
	S000000006	C000002	59	James	Web Development
	S000000008	C000001	23	Harry	Database 1
*					