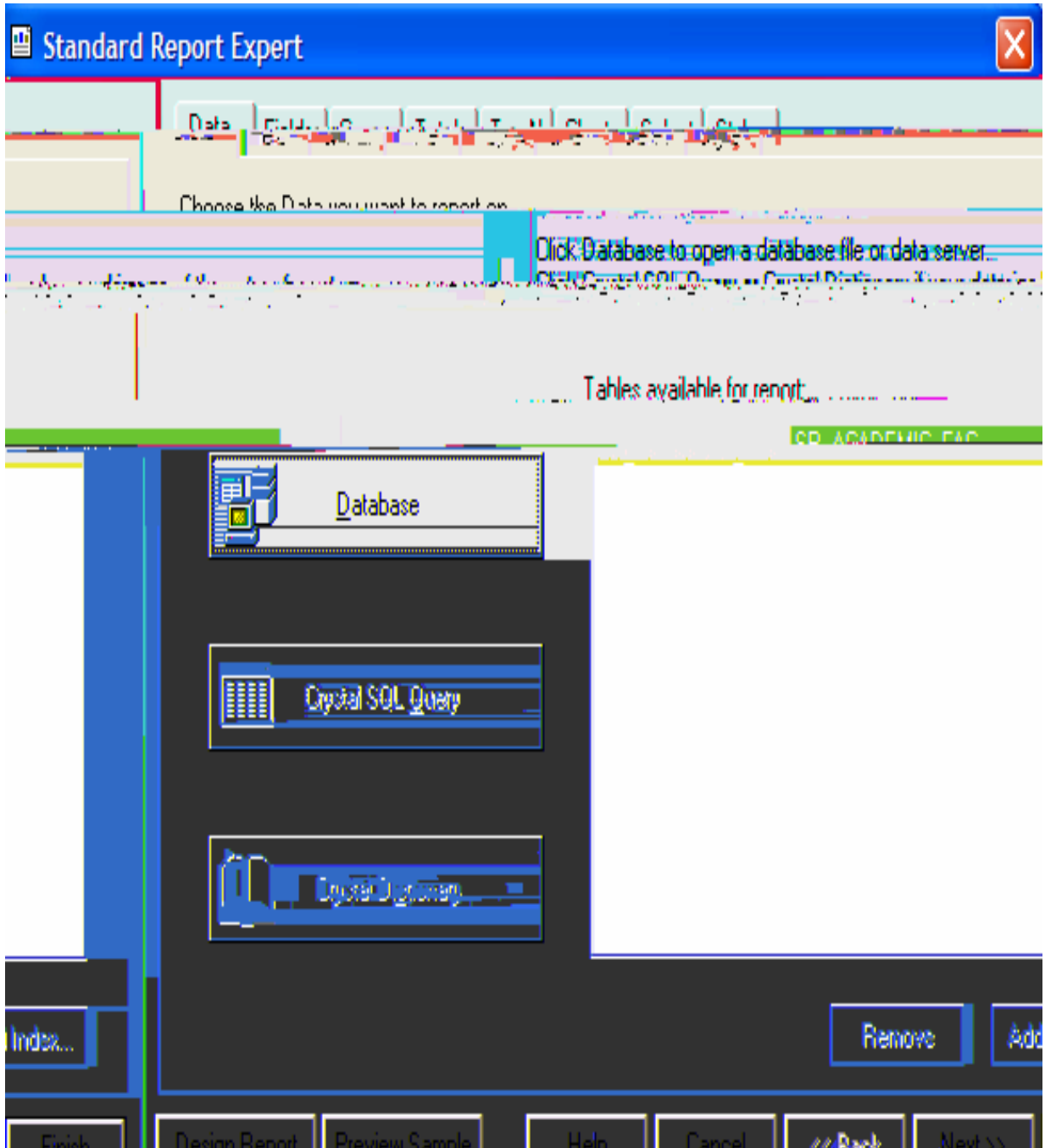
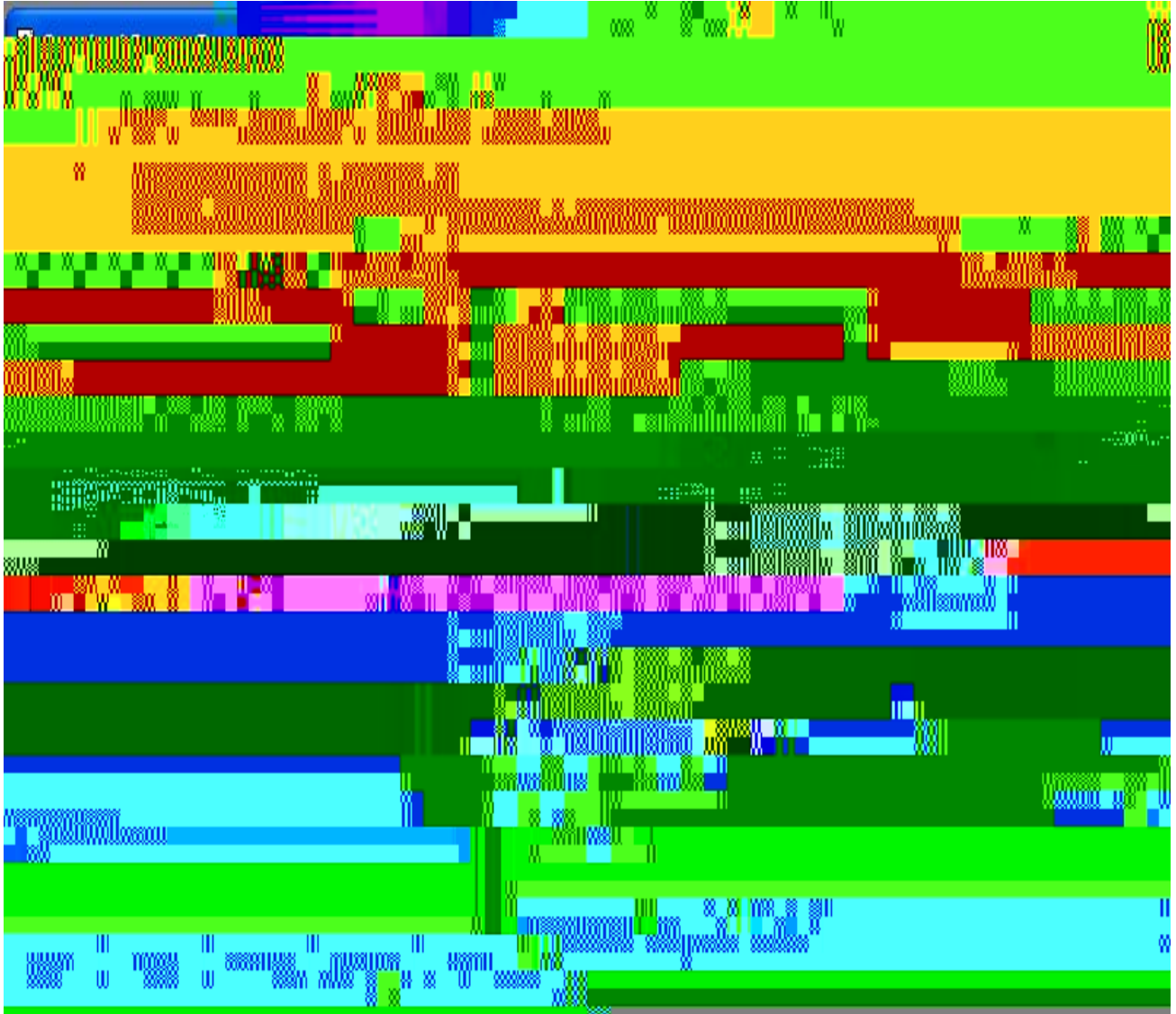


From 'Database' select the **SR_ACADEMIC_FAC** view



For this query, we need to display the following columns in the report:

- a) ID
- b) Name
- c) Student_Email_Address
- d) Prim_Major1
- e) Prim_Major2
- f) Prim_Minor1



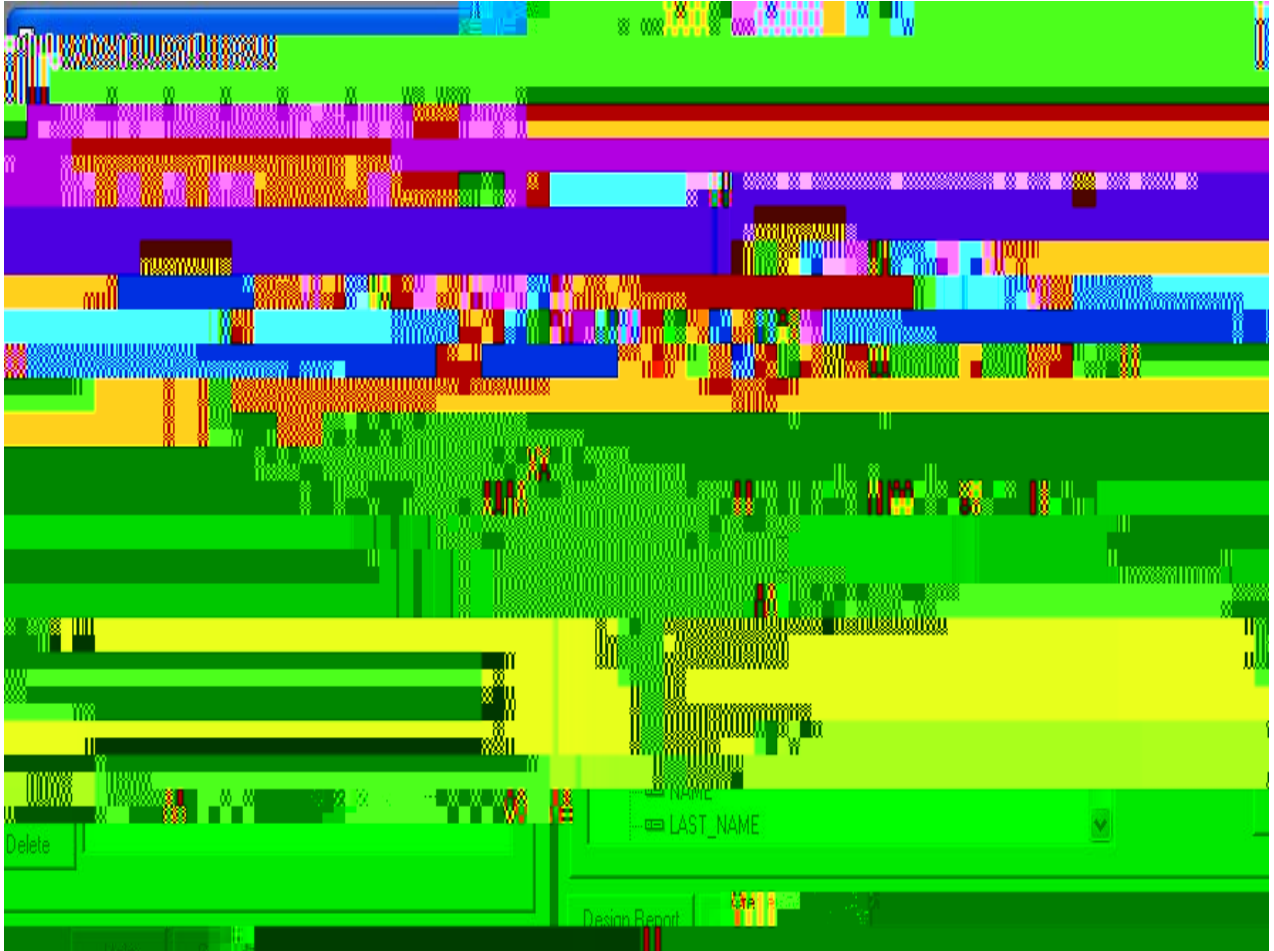
b) Prim_major1_code is one of PSY, PSY1, PSY3, PSY4, PSY5, PSY8

Note: Codes are case-sensitive

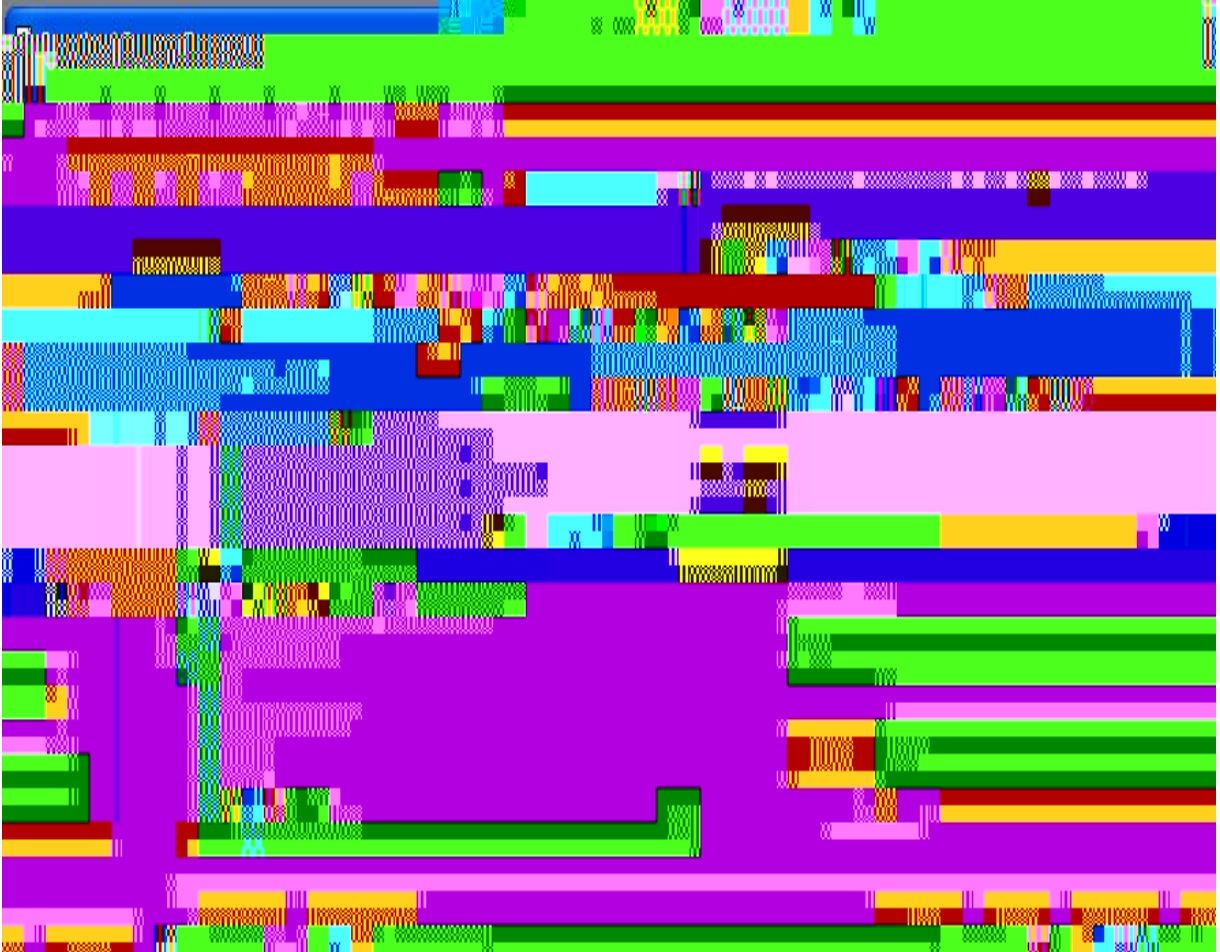


c) Prim_Major2_code **is like** PSY*

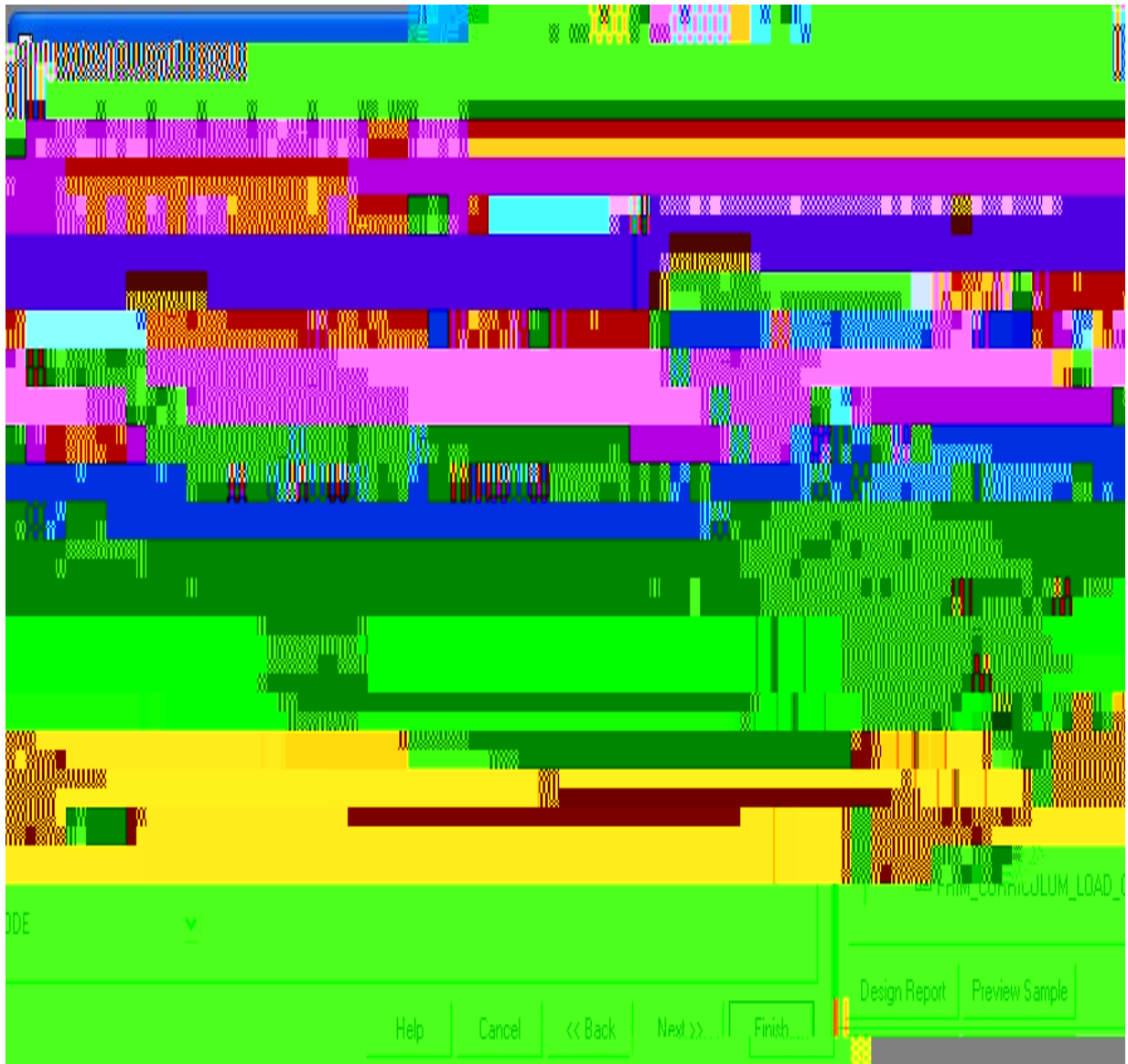
Note: Combining like with a wildcard (which in the case of Crystal is an asterix) replaces the need to list all the codes for Psychology



d) Prim_Minor1_code **is like** PSY*



e) Query requires all registered students, therefore:
REGD_NON_WITHDRAWN_IND **is equal to Y**



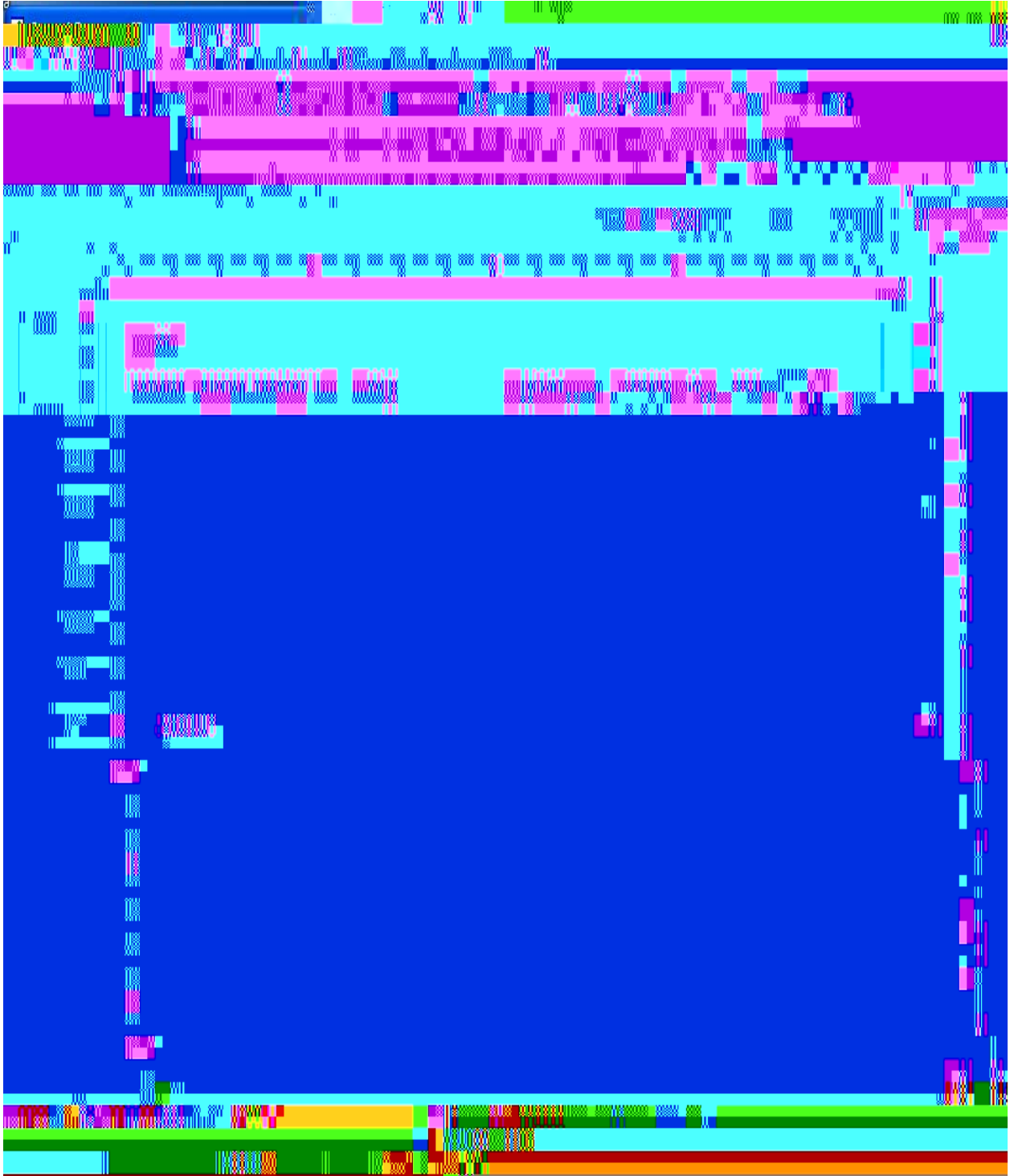
f) Since we want students in the faculties of Arts, Science and Arts and Science, we should select PRIM_FACULTY_CODE **is one of** AR, AS, SC



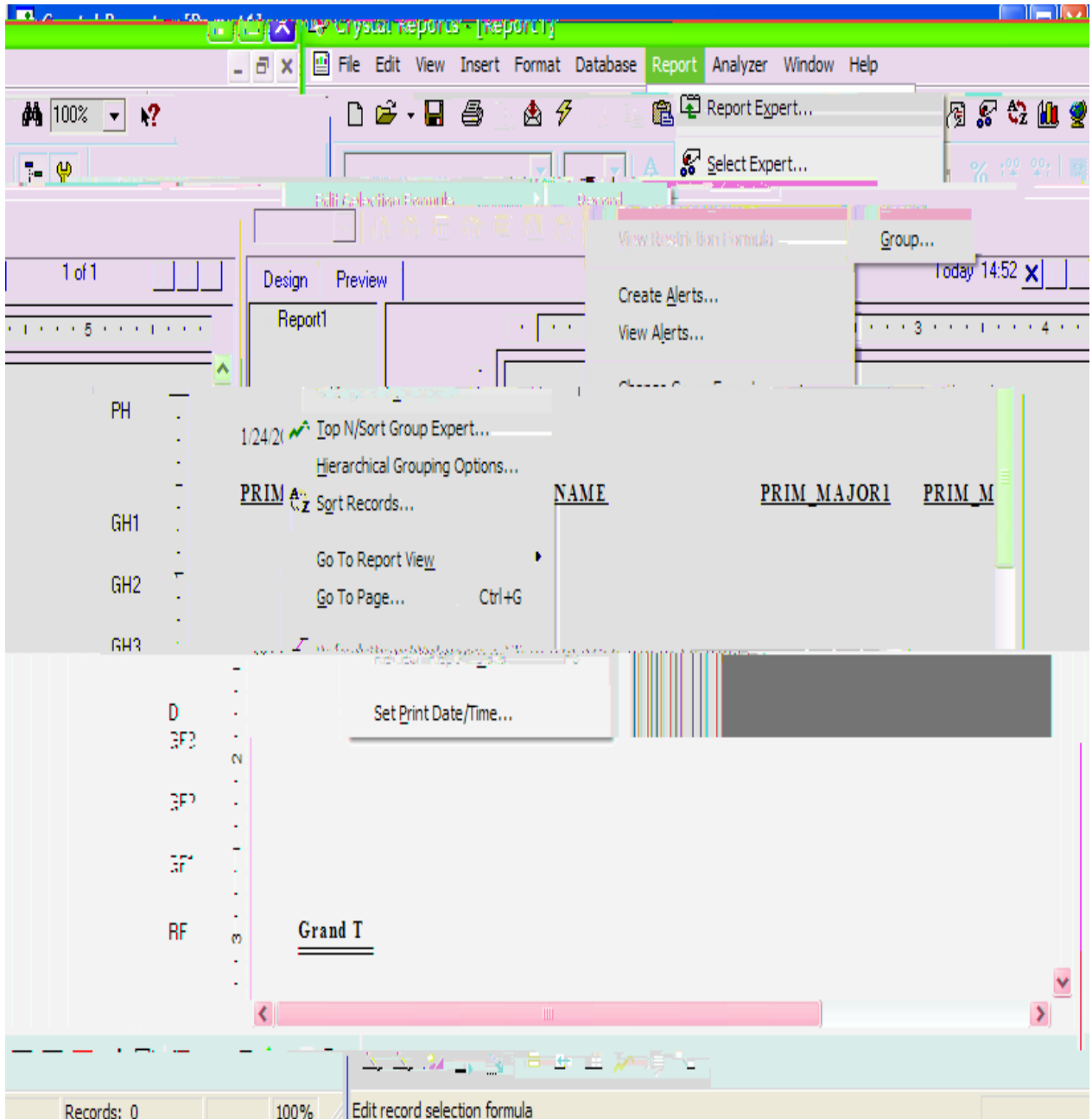
g) Since we want all U3 students, we can select Prim_Curriculum_Year **is equal to** 3



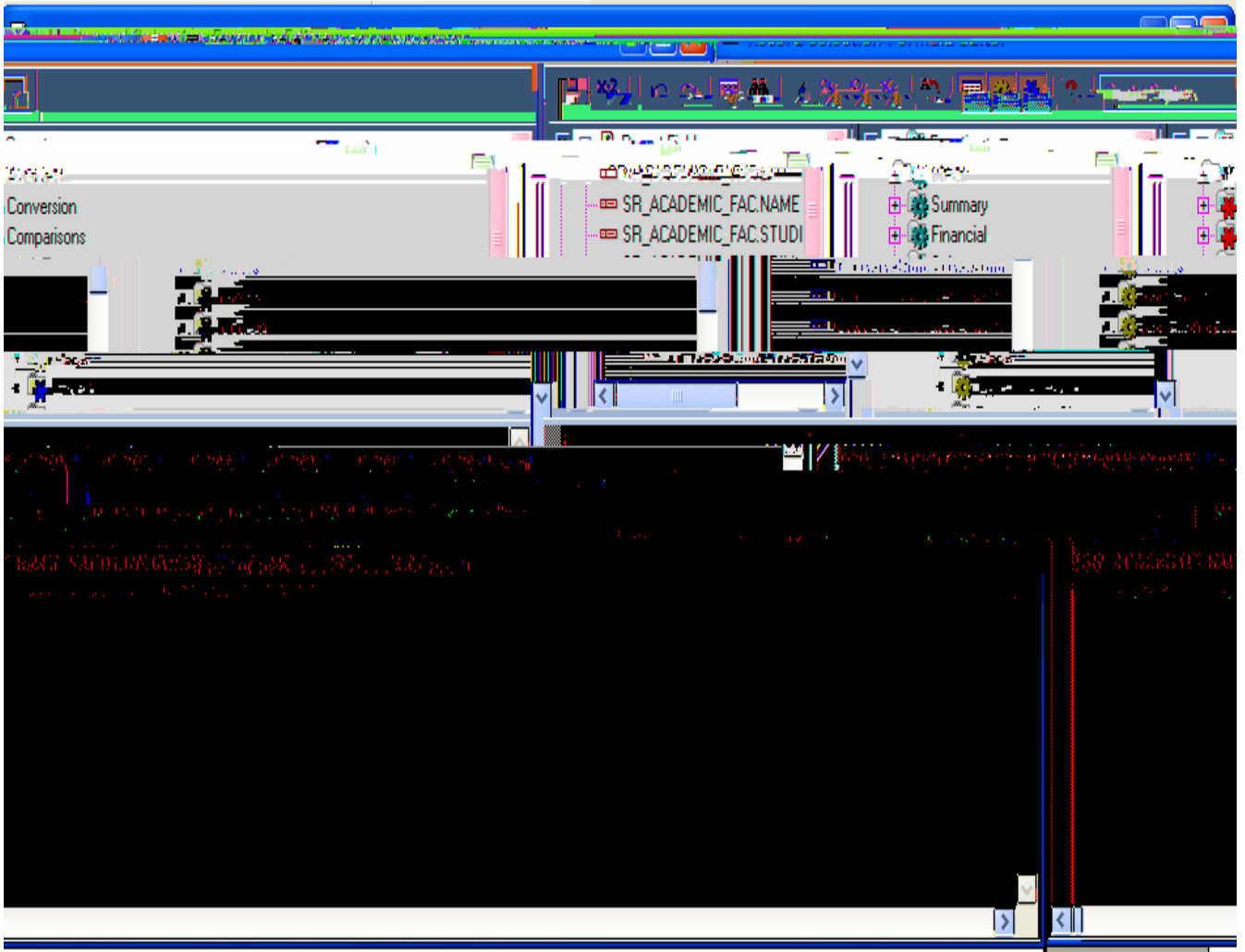
When we click on “Finish”, we realize that we obtain no results!



To find out the reason for this, Click on “Report”, then select “Edit Selection Formula”, then click on Record



Here you can see the SQL script that was generated. We see that it shows “Prim_Major1_code = **AND** Prim_Major2_code = **AND**”). However, we want students who have Psychology either as Prim_Major1 **OR** Prim_Major2 etc.



Now, the “**AND**” between Prim_Major1_code, Prim_Major2_code and Prim_Minor1_code has been changed to **OR** in order to give the correct list of students that we need. Brackets have been inserted as follows:

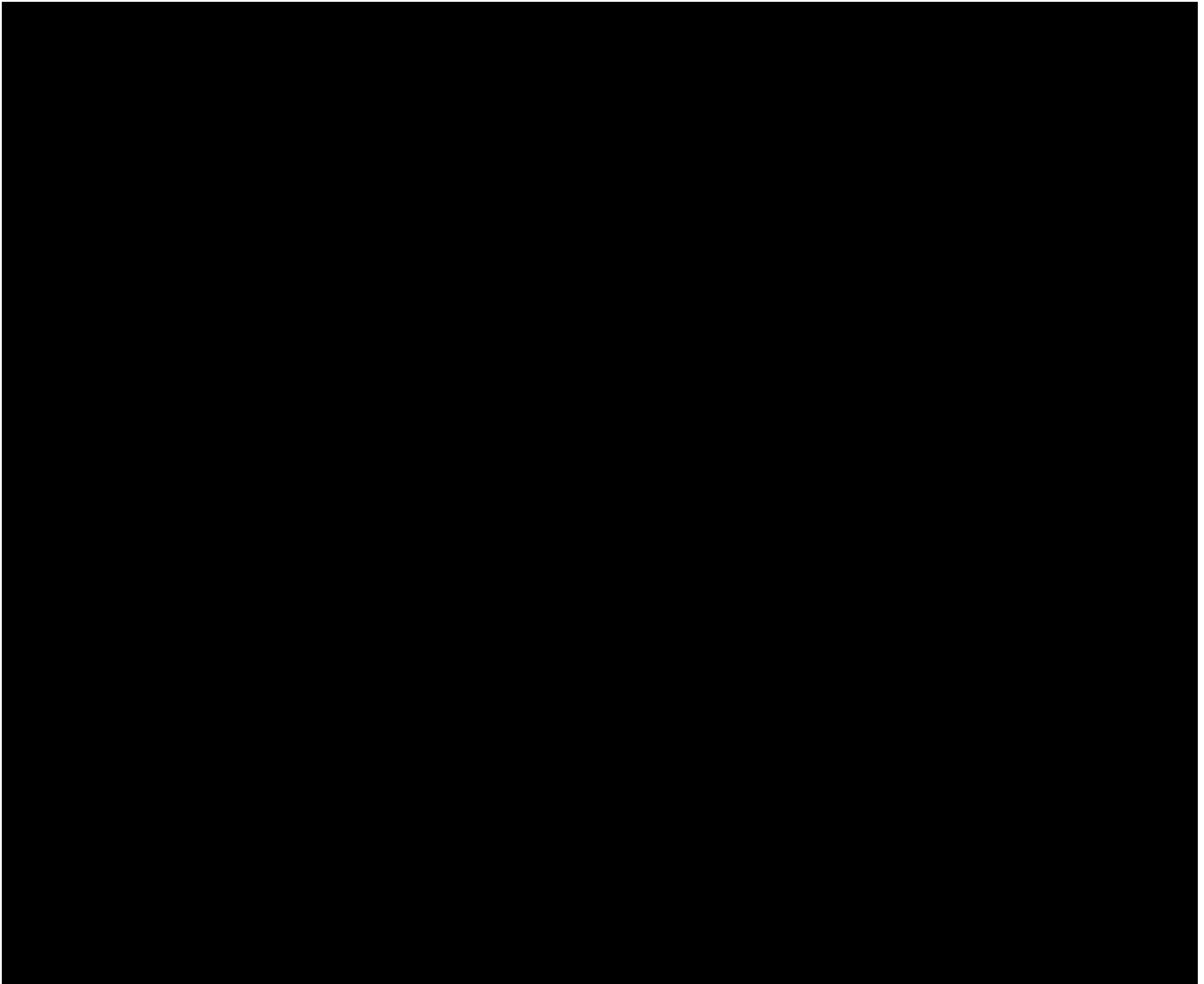
({SR_ACADEMIC_FAC.PRIM_MAJOR1_CODE} in ["PSY8", "PSY5", "PSY4", "PSY3", "PSY1", "PSY"]

OR {SR_ACADEMIC_FAC.PRIM_MAJOR2_CODE} like PSY*

OR {SR_ACADEMIC_FAC.PRIM_MINOR1_CODE} like PSY*)

This allows the whole statement to be evaluated together.

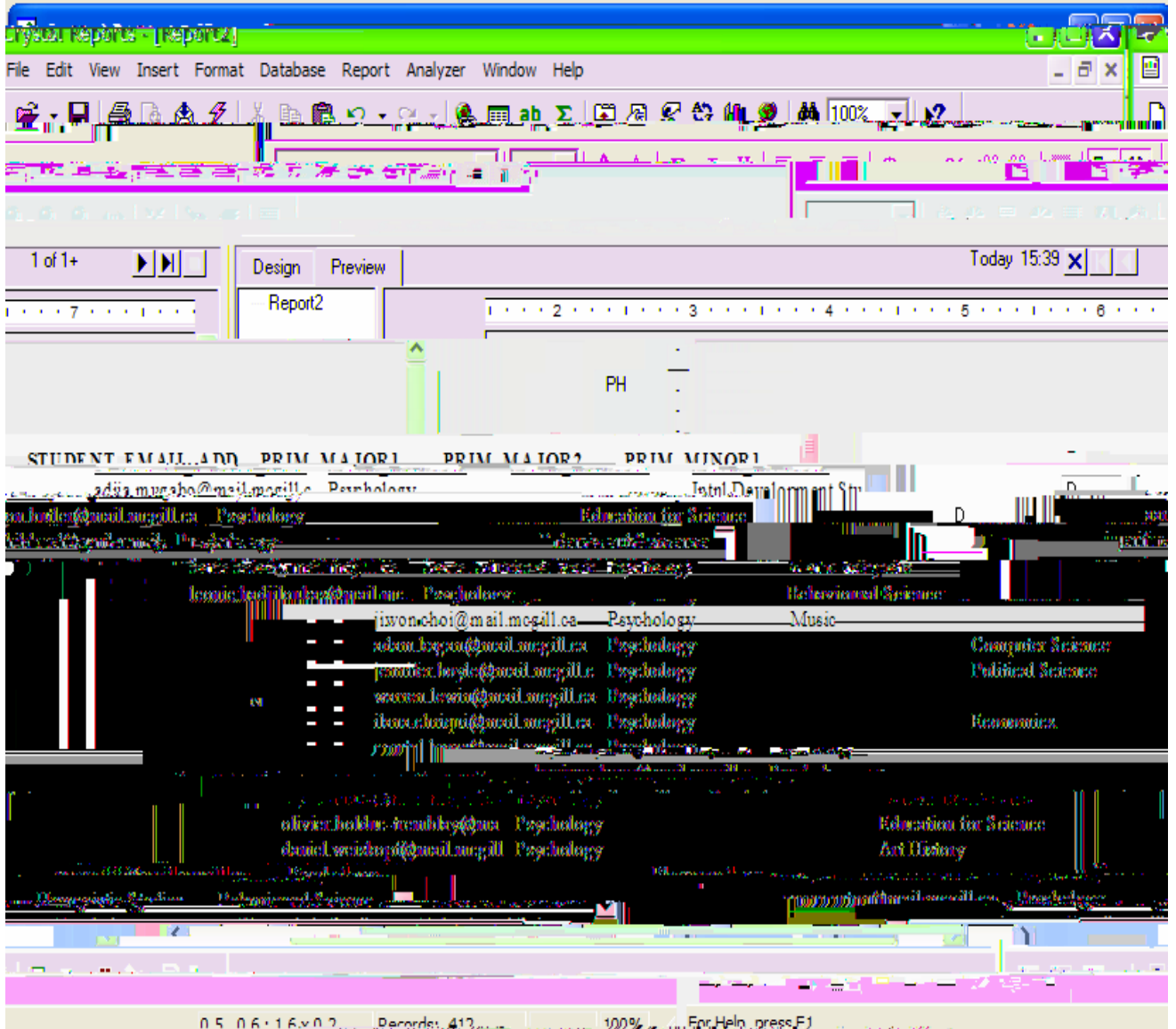
Click on Save on the left hand corner.



Click on “Refresh Data”



At the right hand corner, the number of records can be seen which is 412. However, this is an incorrect number because of the null value problem in Crystal



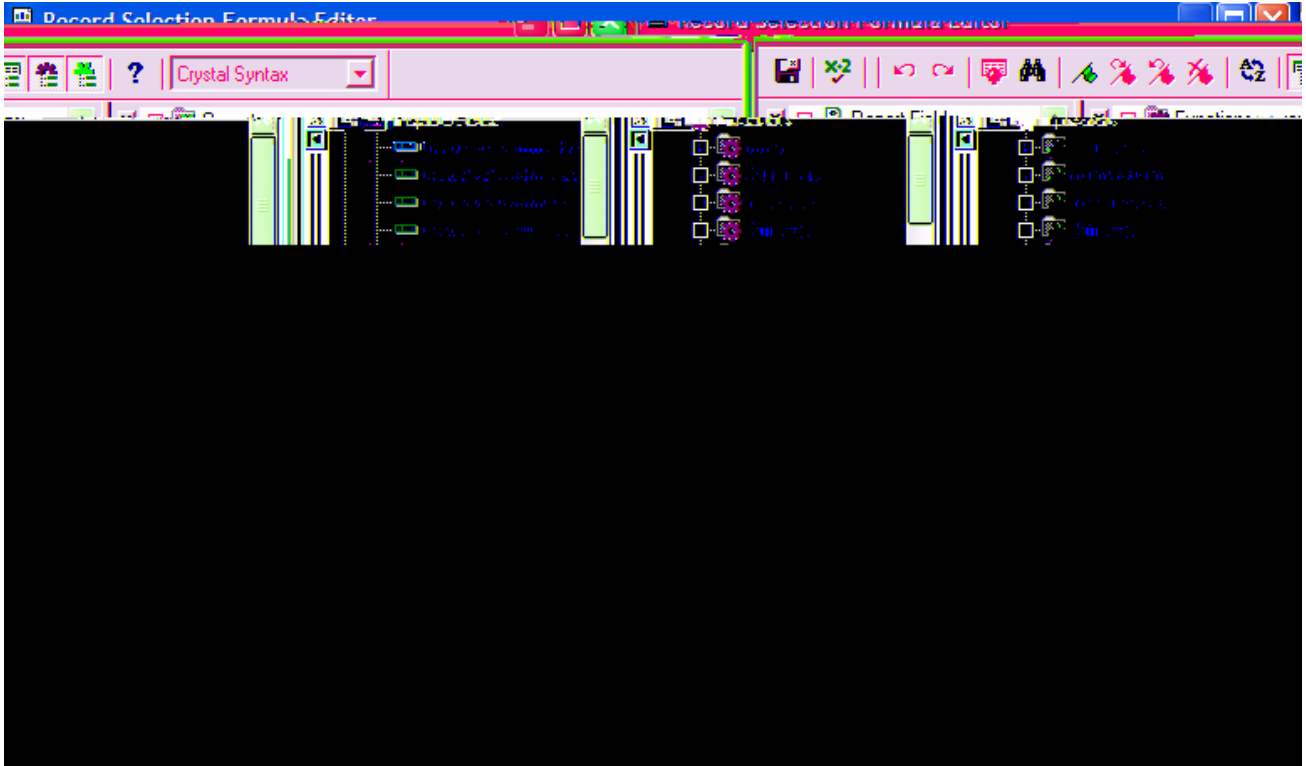
Simple explanation of null-value problem:

Student's Name	Prim_major1	Prim_major2	Prim_minor1
John	English	Psychology	Chemistry
Tom	History		Psychology
Jane	Psychology	Anthropology	
Ann	Economics		Psychology

Only **John** and **Jane** will appear on our list when we run the report in Crystal. This is because the moment Crystal finds a null value in one of the columns, it skips the remaining columns and moves to the next entity.

Therefore, it starts by looking at John, checks if John has Psychology as a Prim_major1, if not then checks if John has Psychology as Prim_major2. When Prim_Major2 equals Psychology, it moves on to Tom. It checks Psychology for Prim_Major1- finds nothing, then goes to check Psychology for Prim_major2 and finds it blank. Instead of checking Prim_minor1, it skips that step and moves to the next person who is Jane. Therefore even though Tom has Psychology as Prim_minor1, it never reaches that column and does not include Tom in the list of students. The same scenario happens when it reaches Ann.

Fix the null value problem by adding in “**NOT ISNULL**”. Make sure that the brackets have been inserted correctly as shown below



```
{SR_ACADEMIC_FAC.REGD_NON_WITHDRAWN_IND} = "Y" and  
{ SR_ACADEMIC_FAC.PRIM_CURRICULUM_YEAR} = "3" and  
{ SR_ACADEMIC_FAC.PRIM_FACULTY_CODE} in ["AS", "SC", "AR"]  
and  
((NOT ISNULL({SR_ACADEMIC_FAC.PRIM_MAJOR1_CODE}))  
AND {SR_ACADEMIC_FAC.PRIM_MAJOR1_CODE} in ["PSY8",  
"PSY5", "PSY4", "PSY3", "PSY1", "PSY"]) OR  
(NOT ISNULL({SR_ACADEMIC_FAC.PRIM_MAJOR2_CODE})  
AND {SR_ACADEMIC_FAC.PRIM_MAJOR2_CODE} like "PSY*")  
OR  
(NOT ISNULL({SR_ACADEMIC_FAC.PRIM_MINOR1_CODE})  
AND {SR_ACADEMIC_FAC.PRIM_MINOR1_CODE} like "PSY*"))
```

