Co-Po Attainment Programs

Co-Po attainment is essential for maintaining NBA records, which will give the college administration a clear view of how students/lecturers are performing in a particular course, hence making it easier to assess the course structure. This project consists of 2 programs

- CO Attainment
- Co-Po mapping

Co-attainment program

The Course outcomes achieved can be calculated using this Python program, it consists of basic data analytics frameworks like NumPy and Pandas. The administration which receives the marks sheet in the form of excel file consisting of 4 sheets for CIE1, CIE2, Assignment, SEE marks respectively as shown below

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Q.No	1a	1b	1c	1d	1e	2a	2b	3a	3b	4a	4b	
2	Max.Marks for each question	2	2	2	2	2	5	5	7	3	6	4	
3	CO number of each question	1	1	1	2	2	1	1	1	2	2	2	
4	1.00523E+11	2	2	2	2	2	4	3	6	2	-	-	
5	1.00523E+11	1	2	1	2	2	4	4	4	2	-	-	
6	1.00523E+11	2	2	2	2	2	3	4	6	2	-	-	
7	1.00523E+11	2	2	0	2	2	3	4	5	3	-	-	
8	1.00523E+11	2	2	2	2	1	3	2	7	1	-	-	
9	1.00523E+11	2	2	1	2	1	-	-	7	1	4	4	
10	1.00523E+11	2	2	2	2	-	-	-	6	1	5	3	
11	1.00523E+11	1.5	1.5	2	2	0.5	2.5	3	6	-	-	-	
12	1.00523E+11	2	2	1	2	1	5	4	-	-	2	4	
13	1.00523E+11	2	2	0.5	2	2	3	4.5	7	1	-	-	
14	1.00523E+11	1.5	1	2	1	2	4	4	-	-	1.5	3	

This typically comprises of the question number, max mark for that particular question, which CO does the question belongs from, and record of each student's mark for every question. To evaluate the COs the admin has to calculate all the max-marks and the actual-marks obtained by the students for every sheet for respective CO and accumulate it using different mathematical functions for each.

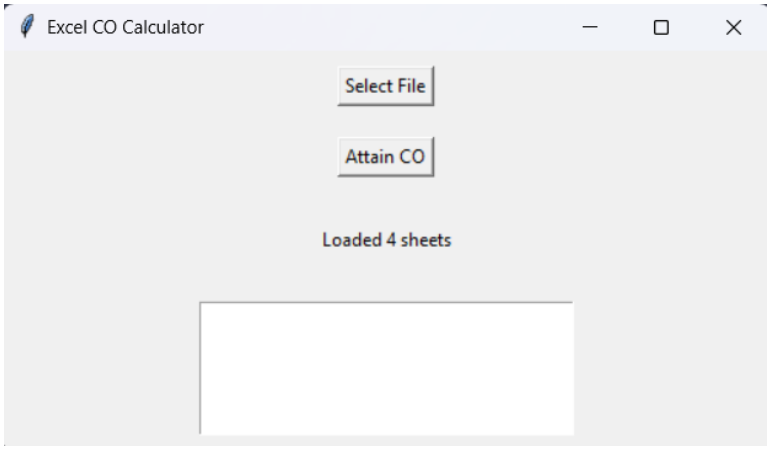
What this program does?

All that a admin has to do is just to upload the file which is given by the centre of evaluation and press "Attain" and all the COs are calculated without manually computing all the values within few seconds of time.

How to use this program?

1. Run the program in any editor that supports python and the libraries “NumPy, Pandas, tkinter”.

2. Upload the marks Excel file, which is sent by the Centre of evaluation in the given field.



3. Then press the button “Attain CO” and the calculated COs will be displayed in the white space, which can be copied for further use.

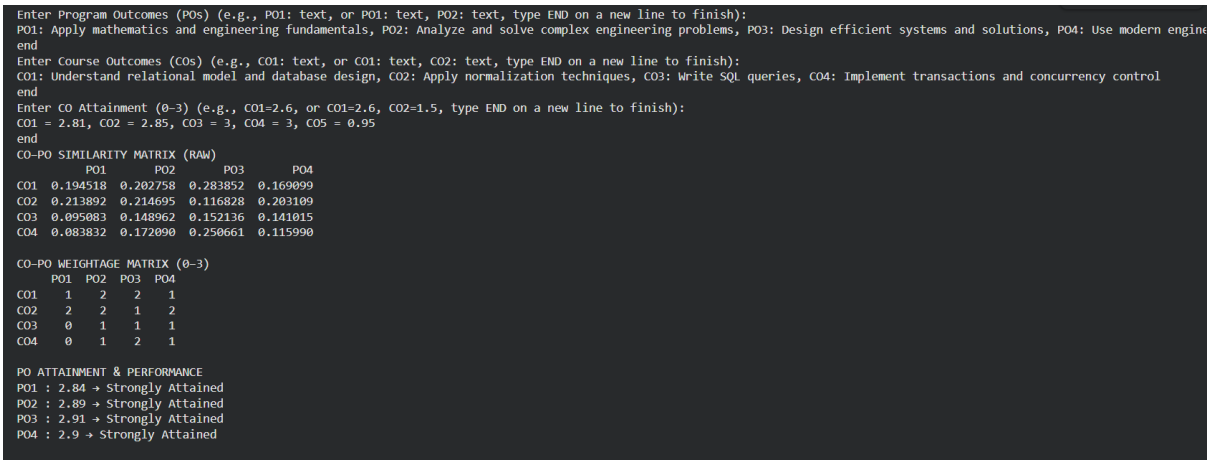
Co-Po Mapping program

To evaluate how a course is performing on the basic idea of the program outcomes is to map the COs and the POs, which is usually done by the domain experts or the lecturers how are proficient on the subject. But now, using modern AI tech like Hugging Face’s BERT language model we can do that without any explicit support.

How to use this program?

1. Run the program file in Google Collab or any editor that supports SentenceTransformer
2. Copy paste the Pos, Cos, Co attainment values (from the previous program) and paste it in the respective field shown in the terminal
   (make sure all the Po/Co are separated with a comma ”,”)
3. The results will be printed out and it will show how well a particular CO is being Mapped to a particular PO in the form

of a matrix. And another matrix will be displayed on how those Co attainments are being followed in the Program Outcomes. And finally it'll give the verdict on the CO in 4 outputs "Strongly attained, attained, partially attained, not attained".



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