

Journal for Spring 2008

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Week 1: April 1 to April 7

We met Dr. Martin and decided what is our next task. Last quarter we worked on the formula for $(A+B)[k]$. We guessed the formula for $(A+B)[1]$ but it was not working for all the entries.

Our next task is to recheck if what we have done is right and whether the formula is really not working.

Week 2: April 7 to April 14

This week we verified the formula again. We had made some mistake in the calculation previously so the formula we have guessed was not working for both (1,1) and (1,2) entries. But this time after correcting we guessed the new formula. But we are not sure whether it is going work for other higher ranks also.

The next task is to read the paper, understand it and guess what will be the constants for the initial formula which Dr. Martin has guessed.

Week 3: April 14 to April 21

We went through the proof again and discussed on some doubts regarding it with Dr. Martin. To derive the general formula for the constants, we are starting with guessing the formula for the constants of $(A+B)[1]$ case. Here we are going to use the constants that we used in verifying the formula for $(A+B)[1]$. We may get more than one formula.

Week 4: April 21 to April 28

As we have more equations than variables (8 equations and 4 variables), hence there is no solution for the constants formula and for now we put that formula derivation aside.

This week Dr. Martin gave us a new task regarding the $|A + B|$ formula.

Our new task is to reduce the number of computations required to compute the determinant. We are looking at the existence of recursiveness in finding the determinants of lower rank matrices i.e by choosing r out of n rows and columns.

Week 5: April 28 to May 5

We figured out some sort of recursiveness in between the determinants of the size ' n ' and ' $(n - 1)$ ' square matrices (here size ' n ' square matrix contains size ' $(n - 1)$ ' square matrix). To find the determinant of the matrix size n we used a size $n - 1$ square matrix and with some elementary operations we were able to get back the determinant of size n square matrix.

Now we are going to look at the pseudo code for finding the determinant of size ' n ' square matrix using ' $(n - 1)$ ' square matrix. As an example we took a 3×3 matrix and verified it.

Week 6: May5 to May 9

We got a rough idea of the pseudo code, but are still working on it. Since we have poster presentations in our Mathematics department in two weeks Dr. Martin has told us what all we should include in it. So we will be working on that next week.

Week 7: May 9 to May 16

We made a rough draft of the poster with the slides we already had in our previous presentations. We consolidated them and put them in a sequence.

Week 8: May 16 to May 23

Dr. Martin has suggested lots of changes and also sent us a sample poster since our draft was not in the proper format. We updated the poster with all the suggested changes.

Week 9: May 23 to May 30

Dr. Martin and our team members have suggested some more changes to the poster. So we made final changes to the poster and prepared for the poster session.

Week 10: May 30 to June 6

The poster presentation was exciting. We learned lot of things. Though we made lot of changes in the draft we still had a few mistakes, and also now we came to know what type of questions we can expect from audience.

This is the last week of the quarter so we are working on the final report and consolidating the journals.