Numerical Analysis Scores

2016

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2017

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2018

2018 Numerical Analysis Scores : Sheet1

Rank	Student ID	Year	Gender	Final Grade	Bonus Assign 0	Bonus Assign. 1	Bonus Assign. 2	Bonus Assign. 3 4a	Bonus Assign. 3 3b	Penalt Attend 09/01–
#1	201427128			A+	3	2	3	3	2	
#2	201727153			A+	3	1.5	3	2.5	3	
#3	201527143			A+	3	1.5	3	2	3	
#4	201527105			A+	3	1.5	1	1	1	
#5	201527136			A+	3	1.5	2	2.5	3	
#6	201727142			A+	3	2	2	1.5	3	
#7	201527150			A+	3	1.5	1.5	1	3	
#8	201427144			A+	3	2.5	1.5	2.5	2	
#9	200927146			A+	3	1.5	2	2	2	
#10	201527119			A0	3	1.5	2	2.5	3	
#11	201527117			A0	3	2	2	1.5	3	
#12	201727128			A0	3	1.5	2	1	3	
#13	201527140			B+	3	1	1	1	0	
#14	201527147			B+	3	1.5	1	0	0	

Sheet1

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The scores for Assignment 0 have been entered. I gave 1.5 point to register to my website and 1.5 point to subscribe to email notifications on the Numerical Analysis forum. Please check that there is no mistake.

Quiz 1 has been corrected. I took away 0.5 points for not indicating your answers clearly (with a box). I took away 0.5 points if you didn't take into account the denormal range. I took away 1 point if you didn't iterate the two conditions (it's not possible to find the answer directly for this problem: you must do iterations).

Quiz 2 has been corrected. I took away 0.5 points if you didn't solve (a) by hand (one iteration at a time) but just found analytically the number of iterations. I took away 2 points if you didn't solve part (b). I took away 1 point if you didn't

check carefully within the computer program whether there is more than 1 root within the interval. Another coding mistake that you made that I didn't take away points for this time (but I will in the midterm) is when you call f() too many times within the loop: this is not efficient. You should write the code efficiently so that f() is called as few times as possible.

Quiz 3 is corrected. For A3Q4a, I took away 0.5-1 point if the explanation is not so clear, and 2-3 points if it is not detailed enough. For A3Q3b, I took away points if you didn't code the algorithm in a computationally efficient manner. There is no need here to add values to the L or U matrices.

Quiz 4 is corrected. I took away most points if you didn't setup the A matrix using approximate partial derivatives as required by the secant method. I took away a half point or a full point if you didn't calculate correctly the first A matrix or the update to the root guess. Note that I didn't take away any points if you didn't do the second iteration (the second Gaussian elimination). But I expect you to do 2 full iterations if this question is asked during the final exam.

Quiz 5 is corrected. I took away 0.5 point if your explanation is not clear enough. I took away more if there's something wrong with your logic.

The midterm exam has been corrected. Check that the scores for each question have been entered in the spreadsheet correctly.

Quiz 6 has been corrected. I took away 0.5-1 point if you didn't explain fully the right boundary condition (when asked to derive, you need to explain every step in as much detail as possible).

Quiz 7 has been corrected. I took away 1 point if you didn't find the correct polynomial coefficients. I took away 1 point if you didn't integrate properly I_i from the polynomial (you shouldn't be using Taylor series).

I started correcting the final exam today. For each question, there are 25 points allotted. I finished Q1 and Q2. For Q1, I gave 5 points for each right answer. If you got all answers wrong but such was due to one small mistake that affected all 5 answers, then I took away only 5 points. For Q2, I took away 3 points if you didn't correctly outline how the boundary conditions were derived but still got the right final answer (this happened to many of you: you have to be careful to explain correctly each boundary condition on the left and right of the spline, and not regroup them together). I took away further points if there were more problems with the logic.

I finished correcting Q3. I took away 5 points if you performed the inversion of a non M or non P matrix in order to find L: this is very computationally expensive and is missing the point. I also took away 2 points if you simply stated (without proof) that $(P_{34}M_1M_2P_{34})^{-1} = P_{34}M_1^{-1}M_2^{-1}P_{34}$. You need to prove this.

Q4 has been corrected. Part (a) was very similar to a problem in the 2018 midterm exam but only 5 of you wrote something reasonable here.. If you wrote something reasonable, you were given 15 points. For part (b), I gave up to 10 points for a good quality code independently of whether you got part (a) correct or not.

Q5 has been corrected. I gave 10 points for a correct answer for part (a) and 15 points for part (b).

Q6 has been corrected. There were 2 ways of finding the answer: you could either use the formula in the reminder or do it starting from the definition of the least mean square error.

The grades have been assigned. You did much better on the final than on the midterm, and this resulted in more As. I'm very happy with your performance this year — no one got a F or D, and half got A. Great, keep studying this way. Happy new year!