Jeff Anderson Professional Development Leave 1.1, 1.2, and 1.3, Appendix P3, Attachment A : Video Links for Final Report

#	PDL Date	Playlist Name	Video Title	URL	Caption Status	Video Length Min	Video Length Sec	Playlist length (in seconds)
1	PDL 1.1: Spring 2020	Introduction to Electronics Learning Laboratory Kit	1. Introduction to the Linear Algebraic Nodal Analysis Algorithm Learning Lab	https://www.youtube.com/watch?v=R05zS0JlgTE	CC	2	18	7519
2			2. The Electronics Learning Lab Kit for Linear Algebraic Nodal Analysis	https://www.youtube.com/watch?v=OFzozmpSaX8	CC	6	13	
3			3. What is a Solderless Breadboard?	https://www.youtube.com/watch?v=sJ72h7Cubxk	CC	13	22	
4			4. Introduction to Resistors	https://www.youtube.com/watch?v=enbhlJwCEfI	CC	13	56	
5			5. Introduction to DC Voltage Sources	https://www.youtube.com/watch?v=8RzyCJ4smQ4	CC	10	5	
6			6. Introduction to DC Current Sources	https://www.youtube.com/watch?v=5BvSCfqUa44	CC	6	5	
7			7. Let's build our first circuit with a resistor and dc voltage source	https://www.youtube.com/watch?v=3QrSn1TWCUk	CC	9	25	
8			8. How do we measure the voltage drop across an element using a digital multimeter?	https://www.youtube.com/watch?v=Vm6g8SZrrE8	CC	12	7	
9			9. Some intuition about the voltage drop across an element	https://www.youtube.com/watch?v=6pZOvRYU9ws	CC	14	55	
10			10. What the heck is measurement polarity?	https://www.youtube.com/watch?v=29ghHGeN58o	CC	13	25	
11			11. How do we measure current using a digital multimeter?	https://www.youtube.com/watch?v=rtAC-znQ1gE	CC	7	55	
12			12. Measuring circuit variables: Example 1	https://www.youtube.com/watch?v=7aSRQ68FQaI	CC	15	33	
						120	319	
13	PDL 1.1: Spring 2020	Basic Concepts in Circuit Analysis, Part 1	1. Measuring Circuit Variables: Example 3	https://www.youtube.com/watch?v=rqBD7svo8Ew	CC	17	35	6105
14			2. Measuring Circuit Variables: Example 5	https://www.youtube.com/watch?v=1NMsDn1Rdjg	CC	14	44	
15			3. Parallel and Series Circuits	https://www.youtube.com/watch?v=qSVL4h6bVQ0	CC	11	11	
16			4. The Canonical Circuit Element	https://www.youtube.com/watch?v=hrr4gng87lI	CC	14	20	
17			5. The Nodes of a Circuit	https://www.youtube.com/watch?v=oaW-Zk19m5Q	CC	14	13	
18			6. Measuring Circuit Variables: Example 7	https://www.youtube.com/watch?v=5tEZJRCf4fQ	CC	29	42	
						99	165	
19	PDL 1.1: Spring 2020	Linear Algebraic Nodal Analysis Example 2	1. Linear Algebraic Nodal Analysis, Example 2: Circuit Model Verification	https://www.youtube.com/watch?v=t3QL8KTcga0	CC	14	31	18773
20			2. LANA Example 2, Step 1: Identify and label the entire set of nodes in our circuit	https://www.youtube.com/watch?v=ABfvvq8NrDU	CC	4	36	
21			3. LANA Example 2, Step 2: Model the circuit as a directed graph	https://www.youtube.com/watch?v=aCu8avtPVDE	CC	13	8	
22			4. LANA Example 2, Step 3: Create the entire incidence matrix	https://www.youtube.com/watch?v=Yp5ds_TNKY	CC	7	43	
23			5. LANA Example 2, Step 4: Create all circuit vectors	https://www.youtube.com/watch?v=HcT9HtRDr0U	CC	10	43	
24			6. LANA Example 2, Step 5A: State the entire set of KVLs in node potential form	https://www.youtube.com/watch?v=niRlFrzJdkVE	CC	16	1	
25			7. LANA Example 2, Step 5B: State the branch constitutive relations for the circuit	https://www.youtube.com/watch?v=Nkbks71SqxM	CC	6	3	
26			8. LANA Example 2, Step 5C: State the entire set of Kirchhoff's current laws	https://www.youtube.com/watch?v=EQrdMdz0CnU	CC	6	25	
27			9. LANA Example 2, Step 6: Determine all ordinary and generalized nodes	https://www.youtube.com/watch?v=ot76Jn1PTbg	CC	18	1	
28			10. LANA Example 2, Step 6 Extension Part 1	https://www.youtube.com/watch?v=tia14a6Ho6w	CC	22	59	
29			11. LANA Example 2, Step 6 Extension Part 2	https://www.youtube.com/watch?v=4ASj2ZhvxmY	CC	22	55	
30			12. LANA Example 2, Step 7: Ground the circuit	https://www.youtube.com/watch?v=j0iZY0QLQ4	CC	17	51	
31			13. LANA Example 2, Step 8: State the grounded circuit equations	https://www.youtube.com/watch?v=EsQGa8GI37U	CC	20	29	
32			14. LANA Example 2, Step 9: Identify (non)essential nodes and supernodes	https://www.youtube.com/watch?v=PX39yIJyb4I	CC	9	14	
33			15. LANA Example 2, Step 10: Eliminate node dependencies from voltage sources	https://www.youtube.com/watch?v=-82zUcc2o4Q	CC	17	48	
34			16. LANA Example 2, Step 11: State the maximally deflated circuit equation	https://www.youtube.com/watch?v=jb1ZA8iLceM	CC	13	2	
35			17. LANA Example 2, Step 11 Extension Part 1	https://www.youtube.com/watch?v=6EEqFfxNX1E	CC	20	2	
36			18. LANA Example 2, Step 11 Extension Part 2	https://www.youtube.com/watch?v=EndDkGPuvQo	CC	32	31	
37			19. LANA Example 2, Step 11 Extension Part 3	https://www.youtube.com/watch?v=I6oORUkoh7c	CC	14	57	
38			20. LANA Example 2, Step 11 Extension Part 4	https://www.youtube.com/watch?v=5FOY6tDIVTE	CC	23	54	
						303	593	
39	PDL 1.1: Spring 2020	The General Linear Systems Problem	1. The General Linear Systems Problem	https://www.youtube.com/watch?v=ZHkS4QDRvvA	CC	9	24	6784
40			2. The Gaussian Elimination Approach to Solving General Linear Systems	https://www.youtube.com/watch?v=KkyTt43tH3w	CC	7	18	
41			3. Definition of Row Echelon Form	https://www.youtube.com/watch?v=AKxEABtOBKw	CC	8	29	
42			4. Definition of Reduced Row Echelon Form	https://www.youtube.com/watch?v=1C3Gspu2xtQ	CC	5	25	
43			5. The Final Approach GLSP	https://www.youtube.com/watch?v=oWGD1pSrbi4	CC	5	58	
44			6. Set Up the Final Approach GLSP	https://www.youtube.com/watch?v=lyLJ-P5vLw4	CC	18	10	
45			7. Solve the Final Approach GLSP	https://www.youtube.com/watch?v=GYoMJxxAYns	CC	13	41	
46			8. Fourth Degree Model of a Potato Gun as a GLSP	https://www.youtube.com/watch?v=dYDpoWbMPQ0	CC	14	12	
47			9. Playing with a Toy General Linear Systems Problem	https://www.youtube.com/watch?v=63D1xWFlvic	CC	15	38	
48			10. Playing with a second toy general linear-systems problem	https://www.youtube.com/watch?v=EJnLAco1uRU	CC	14	49	
						108	304	
49	PDL 1.1: Spring 2020	Solution Sets for the General Linear Systems Problem	1. The template for complete solutions to linear-systems problems	https://www.youtube.com/watch?v=6126-_2J23A	CC	10	54	8731
50			2. Example 1 of the template for complete solutions to linear-systems problems	https://www.youtube.com/watch?v=WUF6-krfTCg	CC	21	42	
51			3. Theorem: Elementary matrices preserve linear system solutions	https://www.youtube.com/watch?v=jwr_S4Jh6vc	CC	17	18	
52			4. Example 2 with more on the template for complete solutions to linear systems	https://www.youtube.com/watch?v=4A6vl29SEAs	CC	24	19	
53			5. Example 2, part 2: further exploring the unique, special trivial solutions	https://www.youtube.com/watch?v=HqBdMkmFkyU	CC	13	11	
54			6. Theorem: Complete solutions to homogeneous linear-systems problems	https://www.youtube.com/watch?v=bYz0d87qL1c	CC	15	25	
55			7. Definitions of (non)pivot positions, columns, and entries	https://www.youtube.com/watch?v=5FHo4VYrca4	CC	15	2	
56			8. Definitions of pivot variables and free variables	https://www.youtube.com/watch?v=UkFxQeSumB4	CC	8	49	
57			9. A general linear-systems problem from electric circuit analysis	https://www.youtube.com/watch?v=X6q3ow1vn_0	CC	12	15	
58			10. Notes about the rank of a matrix	https://www.youtube.com/watch?v=u30AGP-eBa4	CC	6	36	
						141	271	
59	PDL 1.1: Spring 2020	The Standard Eigenvalue Problem	1. Introduction to the Standard Eigenvalue Problem	https://www.youtube.com/watch?v=IIaQL4tXqJY	CC	29	5	15011
60			2. Introduction to the coupled pendula problem	https://www.youtube.com/watch?v=UG7iPlxkzv4	CC	5	40	
61			4. Visualizing the coupled pendula problem	https://www.youtube.com/watch?v=5B23egrhzPs	CC	11	27	
62			5. The formal statement of the coupled pendula problem	https://www.youtube.com/watch?v=s6hWWggTPk	CC	8	21	
63			6. Steps to Mathematize the Coupled Pendula Problem	https://www.youtube.com/watch?v=DjQYJ5e-tFI	CC	3	55	
64			7. Study the motion of a single pendulum	https://www.youtube.com/watch?v=IT1EuiqvCRM	CC	21	45	
65			8. Derive the ordinary differential equation for a simple pendulum	https://www.youtube.com/watch?v=DbeeJGu1kmc	CC	37	44	
66			9. How to linearize the nonlinear ODE for a simple pendulum	https://www.youtube.com/watch?v=Lcadeiv383M	CC	28	53	
67			10. Mathematical model for the coupled pendula problem	https://www.youtube.com/watch?v=boefKSceZII	CC	27	49	
68			11. State the coupled pendula ODEs using matrices	https://www.youtube.com/watch?v=ZxtYt3d7ow4	CC	14	22	
69			12. The standard eigenvalue problem to model coupled pendula	https://www.youtube.com/watch?v=VmwWjVNNa3U	CC	33	40	
70			13. Solving the coupled pendula standard eigenvalue problem	https://www.youtube.com/watch?v=uhu0AAxrnEs	CC	27	30	
						243	431	
71	PDL 1.1: Spring 2020	Introduction to Eigenvalue Theory	1. The Story of Eigenvalue Education, Part 1	https://www.youtube.com/watch?v=CJ5FxXUszRc	CC	18	50	3684
72			2. The Story of Eigenvalue Education, Part 2	https://www.youtube.com/watch?v=T1xQbxEk4sE	CC	7	40	
73			3. Case studies of eigenvalues of 2-by-2 matrices: Analyze, Categorize, Relate	https://www.youtube.com/watch?v=mcH_iJtksU8	CC	9	43	
74			4. When is a 2-by-2 symmetric matrix positive definite?	https://www.youtube.com/watch?v=MRHmgawP3kM	CC	25	11	
						59	144	
75	PDL 1.2: Fall 2020	The MATLAB Desktop	1. Play with the MATLAB Desktop	https://www.youtube.com/watch?v=wGEtlUkeBI0	CC	7	14	6812
76			2. How to show the virtual keyboard?	https://www.youtube.com/watch?v=TlytmQPwuoA	CC	3	18	
77			3. How to use the command window in MATLAB?	https://www.youtube.com/watch?v=ijfuosEaSCSg	CC	9	27	
78			4. How to define variables in MATLAB?	https://www.youtube.com/watch?v=EeI61AjZBT0	CC	8	31	
79			5. How to perform basic arithmetic in MATLAB?	https://www.youtube.com/watch?v=RAJirGFkbaQ	CC	13	5	
80			6. How to use MATLAB's built-in functions?	https://www.youtube.com/watch?v=WJvlSz66MzQ	CC	20	53	
81			7. How to define scalar variables in MATLAB?	https://www.youtube.com/watch?v=EeI61AjZBT0	CC	17	24	
82			8. What are the rules for MATLAB variable names?	https://www.youtube.com/watch?v=pCHUX_U7MFc	CC	14	56	
83			9. How to manage variables in MATLAB's Workspace?	https://www.youtube.com/watch?v=VFFDMEifhnA	CC	18	44	
						109	272	
84	PDL 1.2: Fall 2020	Script Files	1. What is the MATLAB Toolstrip?	https://www.youtube.com/watch?v=tDkIK9Pd3r0	CC	13	43	7338
85			2. How to connect with MATLAB's online community?	https://www.youtube.com/watch?v=ApQmm30fLOs	CC	9	41	
86			3. What are MATLAB script files?	https://www.youtube.com/watch?v=WabyVijKE1I	CC	27	15	
87			4. What are features of a good algorithm?	https://www.youtube.com/watch?v=Jvxqry9rkvQ	CC	6	16	
88			5. How to draw flowchart diagrams?	https://www.youtube.com/watch?v=IFg10DtV2yY	CC	13	23	
89			6. How do I comment my MATLAB script files?	https://www.youtube.com/watch?v=Xn7s9Zu91Dg	CC	15	23	
90			7. How to change current folder in Command Window	https://www.youtube.com/watch?v=IJU5cRLMQcc	CC	30	7	
91			8. How to save time when documenting your code?	https://www.youtube.com/watch?v=kjgwJ-Pb5fs		6	30	
						119	198	
92	PDL 1.2: Fall 2020	Create Arrays	1. How to create column vectors in MATLAB?	https://www.youtube.com/watch?v=3merem0vz5Q	CC	10	28	5238
93			2. How to create row vectors in MATLAB?	https://www.youtube.com/watch?v=h3jCvRgEqaY	CC	8	22	
94			3. How to create row vectors using the colon operator?	https://www.youtube.com/watch?v=QMMZPUwd14Q	CC	13	49	
95			4. How to create row vectors the using linspace function	https://www.youtube.com/watch?v=I76oqpks8QQ	CC	18	1	
96			5. How to define matrices in MATLAB?	https://www.youtube.com/watch?v=kzngLSRJCyM	CC	17	49	
97			6. How to address individual entries of a matrix?	https://www.youtube.com/watch?v=IJU5cRLMQcc	CC	18	49	
						84	198	
98	PDL 1.2: Fall 2020	Play with Arrays	1. How to use colon notation to address arrays	https://www.youtube.com/watch?v=TV20k8ecEI0	CC	24	49	5493
99			2. How to create zeros, ones, or identity matrices?	https://www.youtube.com/watch?v=xi7bTcJg8Ys	CC	6	57	
100			3. How to use the transpose operator	https://www.youtube.com/watch?v=6HoIOfY8bxg	CC	15	37	
101			4. How to add or delete entries in an existing matrix	https://www.youtube.com/watch?v=eaCsHd-XE6U	CC	8	34	
102			5. How to define block matrices	https://www.youtube.com/watch?v=_6WVTldmcis	CC	17	43	
103			6. What are built-in functions for handling matrices?	https://www.youtube.com/watch?v=Rvy-R1gEAZM	CC	17	53	
						87	273	
104			1. What is the logical data class?	https://www.youtube.com/watch?v=8m8uOHyedVE	CC	18	47	

#	Course	Topic	Question	URL	CC			Total
105	PDL 1.2: Fall 2020	Logical Data	2. What is a logical scalar?	https://www.youtube.com/watch?v=IlGveBvR1EY	CC	7	41	5646
106			3. What is a logical vector?	https://www.youtube.com/watch?v=rkznl-FJ6x0	CC	11	55	
107			4. What is a logical matrix?	https://www.youtube.com/watch?v=blYKbodvBj8	CC	7	10	
108			5. How can we accurately refer to the size of logical data?	https://www.youtube.com/watch?v=KClwIb3f4T4	CC	4	27	
109			6. What is the logical NOT operator?	https://www.youtube.com/watch?v=3hpNXSLqoZM	CC	10	3	
110			7. What is the logical AND operator?	https://www.youtube.com/watch?v=pY6jSqn2QyE	CC	19	15	
111			8. What is the logical OR operator?	https://www.youtube.com/watch?v=pr9ETk1_GSk	CC	14	48	
						90	246	
112	PDL 1.2: Fall 2020	Logical Play	1. What is the form of a logical operator?	https://www.youtube.com/watch?v=nj4ZcJ60xX4	CC	10	58	6843
113			2. What are compatible sizes for logical operators?	https://www.youtube.com/watch?v=EFtpHnAdmWQ	CC	18	43	
114			3. What is the logical XOR operator?	https://www.youtube.com/watch?v=ML4isA-iO8Y	CC	9	21	
115			4. How to combine logical operations?	https://www.youtube.com/watch?v=vrwdTRWdtUw	CC	8	22	
116			5. What are equivalent propositions?	https://www.youtube.com/watch?v=vHRjx-ztKa0	CC	6	31	
117			6. What are relational operations?	https://www.youtube.com/watch?v=6IWZ7dz_hDI	CC	11	43	
118			7. How to test for equality?	https://www.youtube.com/watch?v=Ei-xeeySTgI	CC	9	57	
119			8. How to test inequality relationships?	https://www.youtube.com/watch?v=qsQFaufaeWA	CC	4	59	
120			9. How to use the isa function?	https://www.youtube.com/watch?v=Q9LOQT5b9bw	CC	12	59	
121			10. What are special logical operators?	https://www.youtube.com/watch?v=UfTG5kYeXEs		9	13	
122			11. How to test the state of MATLAB entities?	https://www.youtube.com/watch?v=-ELjyadzd5A	CC	4	22	
123			12. How does logical indexing work?	https://www.youtube.com/watch?v=u8zk0bgKVkA	CC	6	55	
						106	483	
124	PDL 1.2: Fall 2020	Introduction to Unsigned Integers	0. How does integer division relate to the floor function?	https://www.youtube.com/watch?v=kqtt8iGzJRc	CC	20	25	10880
125			1. What are unsigned integers?	https://www.youtube.com/watch?v=HUWwUSsjBj0	CC	6	36	
126			2. What are unsigned decimal numbers?	https://www.youtube.com/watch?v=vnJA0P68QxvQ	CC	31	12	
127			3. What are unsigned binary numbers?	https://www.youtube.com/watch?v=Ki3CyTSgwGQ	CC	28	59	
128			4. What are unsigned hexadecimal numbers?	https://www.youtube.com/watch?v=CBmHocmSDfg	CC	19	53	
129			5. How many digits do we need to represent unsigned integers?	https://www.youtube.com/watch?v=Ibv6EVj6BEk	CC	34	24	
130			6. How to convert from decimal to binary (Version 1)?	https://www.youtube.com/watch?v=rriMxBqExi8s	CC	39	51	
						177	260	
131	PDL 1.2: Fall 2020 + PDL 1.3: Fall 2021	Control Flow Statements	1. How to use for loops in MATLAB?	https://www.youtube.com/watch?v=ZLl9HytbMlI	CC	25	15	9224
132			2. How to use for loops with vectors?	https://www.youtube.com/watch?v=myxRE6mj0ik	CC	18	30	
133			3. How to code a dot product algorithm?	https://www.youtube.com/watch?v=Cxb7TSZlPRY		7	12	
134			4. How to code scalar-vector multiplication?	https://www.youtube.com/watch?v=ZOU2ndjFWTE		12	56	
135			5. How to code an axpy operation?	https://www.youtube.com/watch?v=Xe46nF3s_Mo		12	25	
136			6. How to write an if statement?	https://www.youtube.com/watch?v=Wf9vykWXJn0	CC	25	11	
137			7. How to write an if/else statement?	https://www.youtube.com/watch?v=UeId6Qe9Bx0	CC	28	53	
138			8. How to use if, elseif, else statements?	https://www.youtube.com/watch?v=CctB0JTbF8Y		12	43	
139			9. What is logical short circuiting?	https://www.youtube.com/watch?v=-3489Qu0_IY		10	39	
						149	284	
140	PDL 1.3: Fall 2021	Function Files	1. What are function files?	https://www.youtube.com/watch?v=ghS5Qy7l-Lk		29	19	6644
141			2. How to code a scalar-vector multiplication function?	https://www.youtube.com/watch?v=5Fx4sjwJGqo		47	44	
142			3. How to code a function that copies one vector into another?	https://www.youtube.com/watch?v=DEY17qdiMcY		33	41	
						109	104	
143	PDL 1.3: Fall 2021	Matrix-Vector Multiplication	1. How to do matrix column vector multiplication using linear combinations	https://www.youtube.com/watch?v=dqD1NJpO_WE		18	51	11849
144			2. Example of matrix column vector multiplication using linear combinations	https://www.youtube.com/watch?v=AtiOM9gailk		14	25	
145			3. How to do matrix column vector multiplication using dot products?	https://www.youtube.com/watch?v=VQ6rlUu9MTw		14	57	
146			4. Example of matrix column vector multiplication using dot products	https://www.youtube.com/watch?v=K_N7bsJh7bc		12	36	
147			5. Explore the algebraic properties of matrix-column-vector-multiplication: distributivity	https://www.youtube.com/watch?v=-paPKeKktgA		22	58	
148			6. Explore the algebraic properties of matrix-column-vector multiplication: scalar multiplication	https://www.youtube.com/watch?v=aa_zVe2CUvg		6	59	
149			7. How to do row vector matrix multiplication using linear combinations	https://www.youtube.com/watch?v=QYusQSFWiG0		12	8	
150			8. Example of row-vector matrix-multiplication using linear combinations	https://www.youtube.com/watch?v=FZvp6-ESwjE		11	27	
151			9. How to do row-vector-matrix multiplication using dot products	https://www.youtube.com/watch?v=wmanefe3kBQ		13	29	
152			10. Example of row-vector-matrix-multiplication using dot products	https://www.youtube.com/watch?v=DofWhxdqvL0		13	15	
153			11. Explore the algebraic properties of row-vector-matrix multiplication	https://www.youtube.com/watch?v=nbrizsZhVy8		21	22	
154			12. What is the relationship between matrix-vector multiplication and matrix partitions?	https://www.youtube.com/watch?v=dEFlXIdeqVg		9	28	
155			13. Do we really need four types of matrix vector multiplication	https://www.youtube.com/watch?v=7VidSUvR6Do		25	34	
						190	449	
156	PDL 1.3: Fall 2021	The Program Development Process	The Program Development Process	https://www.youtube.com/watch?v=D_8B5Ys-kc0		10	16	9885
157			How to code matrix-column-vector multiplication using axpy operations?	https://www.youtube.com/watch?v=CV05wLmdaI0		20	45	
158			How to code matrix-column-vector multiplication using dot products?	https://www.youtube.com/watch?v=7gl5J3jMNjA		17	10	
159			How to code row-vector-matrix multiplication using linear combinations	https://www.youtube.com/watch?v=2YV7rMiinBo		17	16	
160			How to code row-vector-matrix multiplication via dot products	https://www.youtube.com/watch?v=ZX2QR5woQKs		16	23	
161			Towards creating a general matrix-vector multiplication function	https://www.youtube.com/watch?v=BwcBT8SSHJU		17	31	
162			Produce Specifications for a general matrix-vector multiplication function	https://www.youtube.com/watch?v=_xylQWbC4kg		11	42	
163			Document general matrix-vector multiplication function	https://www.youtube.com/watch?v=AvPMhpGw3N4		10	17	
164			How to code a function for matrix-vector multiplication?	https://www.youtube.com/watch?v=tnXOdsgPN38		43	25	
						161	225	
165	PDL 1.3: Fall 2021	LANA Example 3	LANA Example 3 Physical Measurements	https://www.youtube.com/watch?v=xhbftqVM7ew		3	38	1023
166			LANA Example 3 MultiSim Model Set Up Video	https://www.youtube.com/watch?v=-XTAQLckBZc		8	30	
167			LANA Example 3 MultiSim Simulation Data	https://www.youtube.com/watch?v=g2-A34u8NJU		4	55	
						15	123	
168	PDL 1.3: Fall 2021	Build Our Libraries: Rank-1 Updates	1. How to code an outer product operation?	https://www.youtube.com/watch?v=4fQEn1DZCgs		18	33	2319
169			2. How to code matrix-matrix addition?	https://www.youtube.com/watch?v=AQ6IZhWoxSQ		9	25	
170			3. How to code a rank-1 update?	https://www.youtube.com/watch?v=wbPOD4c9AGg		10	41	
						37	99	
171	PDL 1.3: Fall 2021	Matrix-Matrix Multiplication	2. The Anatomy of Matrix-Matrix Multiplication	https://www.youtube.com/watch?v=ocRQvFUYfLY		8	31	5975
172			3. How to do matrix-matrix multiplication using linear combinations of column vectors	https://www.youtube.com/watch?v=Apg8GERHvjA		14	46	
173			4. Example 1 of matrix-matrix multiplication using linear combinations of column vectors	https://www.youtube.com/watch?v=AYuGi4232Y8		8	20	
174			5. Example 2 of matrix-matrix multiplication using linear combinations of column vectors	https://www.youtube.com/watch?v=v-_mD1uvms		10	29	
175			7. How to do matrix-matrix multiplication using linear combinations of row vectors	https://www.youtube.com/watch?v=7LuAFG36QQE		15	20	
176			8. Example 1 of matrix-matrix multiplication using linear combinations of row vectors	https://www.youtube.com/watch?v=dcs_J9k7w5M		11	41	
177			9. Example 2 of matrix-matrix multiplication using linear combinations of row vectors	https://www.youtube.com/watch?v=rriYk2pF04eI		9	32	
178			10. How to do matrix-matrix multiplication using dot products?	https://www.youtube.com/watch?v=MZcPtUkpkvs		20	56	
						95	275	

TOTAL	161776
GOAL	158400