

# ENGINEERING 5

Lecture 3: ASCII, programming, intro to MatLab

Professor Carr Everbach

Course web page:

<http://www.swarthmore.edu/NatSci/ceverba1/Class/e5/E5Index.html>

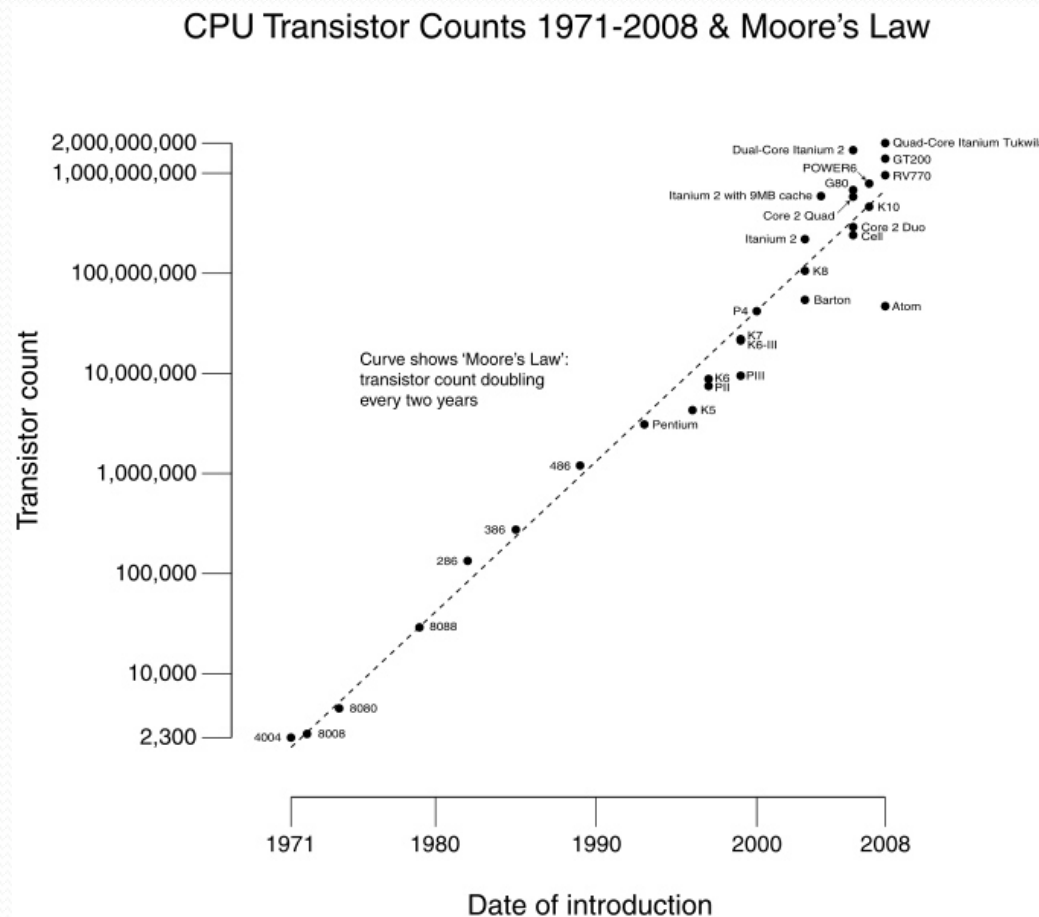
# Remember...

- Mondays 7:00-10:00 and Wednesdays 7:00-9:00 E5 Wizards in Hicks 211/213 (Marley, Beth, and Eric) – Matlab help
- Thursday 9/16
  - Tennis Ball Report (on website) is due
  - Short response essays on Fork and Mirrored articles due
- Shop class (not required – only if you are interested). Starts 9/17 (Friday). Sign up is in Engineering Department Office.
- Lab this week: Start in Papazian again; no sandals!
- Thursday 9/23 - Matlab 1 (on website) is due (start this week)
- Plan to attend a study session sometime – just to see what they are like...

# Also...

- You may use “Getting Started with Matlab 7” by Pratap as a reference. Copies still in bookstore.
- Suggestions:
  - Chapter 1 (esp. 1.7)
  - Chapter 2
  - sections 3.1, 3.2 and 3.3
  - 4.1, 4.2
  - 6.1

# Moore's Law



# ASCII character set

Note: ^X denotes “control-X.”

<i>Decimal</i>	<i>Binary</i>	<i>Octal</i>	<i>Character</i>
0	0000000	000	Null
1	0000001	001	^A
2	0000010	002	^B
3	0000011	003	^C
4	0000100	004	^D
5	0000101	005	^E
6	0000110	006	^F
7	0000111	007	^G; bell
8	0001000	010	^H; backspace
9	0001001	011	^I; tab
10	0001010	012	^J; line feed; newline
11	0001011	013	^K
12	0001100	014	^L; form feed
13	0001101	015	^M; carriage return

14	0001110	016	^ N
15	0001111	017	^ O
16	0010000	020	^ P
17	0010001	021	^ Q
18	0010010	022	^ R
19	0010011	023	^ S
20	0010100	024	^ T
21	0010101	025	^ U
22	0010110	026	^ V
23	0010111	027	^ W
24	0011000	030	^ X

25	0011001	031	^Y
26	0011010	032	^Z
27	0011011	033	escape
28	0011100	034	
29	0011101	035	
30	0011110	036	
31	0011111	037	
32	0100000	040	space
33	0100001	041	!
34	0100010	042	"
35	0100011	043	#
36	0100100	044	\$
37	0100101	045	%
38	0100110	046	&
39	0100111	047	'
40	0101000	050	(
41	0101001	051	)
42	0101010	052	*
43	0101011	053	+
44	0101100	054	,
45	0101101	055	-
46	0101110	056	.
47	0101111	057	/
48	0110000	060	0
49	0110001	061	1
50	0110010	062	2
51	0110011	063	3
52	0110100	064	4
53	0110101	065	5
54	0110110	066	6
55	0110111	067	7
56	0111000	070	8
57	0111001	071	9
58	0111010	072	:
59	0111011	073	::
60	0111100	074	<
61	0111101	075	=
62	0111110	076	>
63	0111111	077	?
64	1000000	100	@
65	1000001	101	A
66	1000010	102	B
67	1000011	103	C
68	1000100	104	D

69	1000101	105	E
70	1000110	106	F
71	1000111	107	G
72	1001000	110	H
73	1001001	111	I
74	1001010	112	J
75	1001011	113	K
76	1001100	114	L
77	1001101	115	M
78	1001110	116	N
79	1001111	117	O
80	1010000	120	P
81	1010001	121	Q
82	1010010	122	R
83	1010011	123	S
84	1010100	124	T
85	1010101	125	U
86	1010110	126	V
87	1010111	127	W
88	1011000	130	X
89	1011001	131	Y
90	1011010	132	Z
91	1011011	133	[
92	1011100	134	\
93	1011101	135	]
94	1011110	136	^
95	1011111	137	_
96	1100000	140	(unc
97	1100001	141	a
98	1100010	142	b
99	1100011	143	c
100	1100100	144	d
101	1100101	145	e
102	1100110	146	f
103	1100111	147	g
104	1101000	150	h
105	1101001	151	i
106	1101010	152	j
107	1101011	153	k
108	1101100	154	l
109	1101101	155	m
110	1101110	156	n
111	1101111	157	o
112	1110000	160	p

113	1110001	161	q
114	1110010	162	r
115	1110011	163	s
116	1110100	164	t
117	1110101	165	u
118	1110110	166	v
119	1110111	167	w
120	1111000	170	x
121	1111001	171	y
122	1111010	172	z
123	1111011	173	{
124	1111100	174	
125	1111101	175	}
126	1111110	176	~
127	1111111	177	rubout; delete

# Programming languages

- Procedural vs. Object-oriented
- Compiled vs. Interpreted
- Representation of data (Matlab uses double-precision or 32 bits per variable, but requires no pre-allocation of memory locations)





... MatLab demo...