

Worksheet for exercise 4.5. Note that `joe.dat` has a sampling rate of 16000 samples/s, not the 8000 samples/s that `lpc_spectrum` expects. So, try applying `lpc_spectrum` to `joe8k.dat` instead. (This worksheet can be printed in landscape orientation on one side of A4 paper.)

						Measured from <code>joe8k.dat</code> using <code>lpc_spectrum</code>						Olive et al. (1993) (American male)						Cruttenden (2001) (British male)			
		Sample numbers				$\frac{1}{4}$ vowel			$\frac{3}{4}$ vowel			$\frac{1}{4}$ vowel			$\frac{3}{4}$ vowel			First component		Second component	
Vowel		Vowel start	Vowel end	$\frac{1}{4}$ vowel	$\frac{3}{4}$ vowel	F ₁ (Hz)	F ₂ (Hz)	F ₃ (Hz)	F ₁ (Hz)	F ₂ (Hz)	F ₃ (Hz)	F ₁ (Hz)	F ₂ (Hz)	F ₃ (Hz)	F ₁ (Hz)	F ₂ (Hz)	F ₃ (Hz)	F ₁ (Hz)	F ₂ (Hz)	F ₁ (Hz)	F ₂ (Hz)
(J)oe	[ə u]											550	1000		400	800		537	1266	379	1024
(t)oo(k)	[u]											450	950	2400	450	950	2400	414	1051	414	1051
(f)a	[a]											750	1100	2600	750	1100	2600	687	1077	687	1077
(th)er(s)	[ə]											500	1500	2500	500	1500	2500				
(sh)oe	[ju]											300	1800		300	850	2400			316	1191
(b)e(nch)	[ɛ]											550	1700	2550	550	1700	2550	494	1650	494	1650
ou(t).	[æu]											800	1350		550	900		780	1368	372	1074
(Sh)e	[i]											280	2250	2750	280	2250	2750	280	2249	280	2249
(w)a(s)	[ə]											500	1500	2500	500	1500	2500				
(w)ai	[eɪ]											500	1750		>250	2250		587	1945	413	2130
(t)i(ng)	[ɪ]											400	1900	2600	400	1900	2600	367	1757	367	1757
a(t)	[ə]											500	1500	2500	500	1500	2500				

(m)y	[a l]											800	1300		>250	1950		734	1117	439	2058
(l)aw(n).	[o]											650	900	2500	650	900	2500	415	828	415	828