

```
1 LELPredictor v01
2 RigelFive - 14 May 2014
3 =====
4 Training Set Statistics:
5   Min LEL Value: -0.301
6   Max LEL Value: 6.301
7   Average LEL Value: 3.2614
8   Sigma^2 of LEL Value: 1.06245
9 -----
10  Min Mw Value: 30.026
11  Max Mw Value: 1701.2
12  Average Mw Value: 263.587
13  Sigma^2 of Mw Value: 21761.9
14 -----
15  Total Chemicals Listed: 1854
16  Size of Training Chemicals List: 483
17  Size of Prediction Chemicals List: 1371
18 -----
19  Total DSS Tox Chemicals: 1854
20  Total ToxCast Chemicals: 8599
21 -----
22  Number of non-CAS chemicals in the training set: 15
23 -----
24 Creating a <1 3 1> neural network
25 Neural Net Recent Average Error: 0.117189
26 Total Training Passes: 216418
27 -----
28 training elapsed time: 302.588 sec
29 -----
30 Calculation / Prediction Set Statistics:
31   Min LEL Value: 1.68579
32   Max LEL Value: 4.64588
33   Average LEL Value: 2.95098
34   Sigma^2 of LEL Value: 0.430856
35 -----
36 class LELPredictor {
37 public:
38   vector<double> predictLEL(void);
39 };
40 vector<double> LELPredictor::predictLEL(void) {
41   // Output the LEL values
42   vector<double> lel;
43
44   lel.push_back(3.56194);
45   lel.push_back(3.574);
46   lel.push_back(2.28469);
47   lel.push_back(5.301);
48   lel.push_back(-0.301);
```



```
49    lel.push_back(6.301);
50    lel.push_back(3.56297);
51    lel.push_back(3.55568);
52    lel.push_back(2.44423);
53    lel.push_back(3.602);
54    lel.push_back(3.5627);
55    lel.push_back(2.273);
56    lel.push_back(2.21577);
57    lel.push_back(3);
58    lel.push_back(3.56916);
59    lel.push_back(2);
60    lel.push_back(3.824);
61    lel.push_back(3.59659);
62    lel.push_back(1.602);
63    lel.push_back(2.08122);
64    lel.push_back(2.13152);
65    lel.push_back(3.25);
66    lel.push_back(1.903);
67    lel.push_back(2);
68    lel.push_back(3.5417);
69    lel.push_back(3.56133);
70    lel.push_back(2.67512);
71    lel.push_back(2.76656);
72    lel.push_back(3.17356);
73    lel.push_back(2.76702);
74    lel.push_back(3.57716);
75    lel.push_back(3.56425);
76    lel.push_back(3.74004);
77    lel.push_back(2.50096);
78    lel.push_back(3.562);
79    lel.push_back(2.23254);
80    lel.push_back(3.56867);
81    lel.push_back(3.903);
82    lel.push_back(3.61651);
83    lel.push_back(1.347);
84    lel.push_back(2.47336);
85    lel.push_back(2.477);
86    lel.push_back(1.83919);
87    lel.push_back(3.01182);
88    lel.push_back(3.079);
89    lel.push_back(2.03908);
90    lel.push_back(1.88895);
91    lel.push_back(5);
92    lel.push_back(2.59563);
93    lel.push_back(3.61567);
94    lel.push_back(3.1783);
95    lel.push_back(2.505);
96    lel.push_back(3.60339);
```



```
97    lel.push_back(2.38407);
98    lel.push_back(3.63617);
99    lel.push_back(2.80698);
100   lel.push_back(2.35725);
101   lel.push_back(2.45508);
102   lel.push_back(2.56603);
103   lel.push_back(3.57634);
104   lel.push_back(2.38407);
105   lel.push_back(2.41892);
106   lel.push_back(3.56133);
107   lel.push_back(2.15757);
108   lel.push_back(3.64968);
109   lel.push_back(3.66737);
110   lel.push_back(2.90279);
111   lel.push_back(2.6646);
112   lel.push_back(2.84365);
113   lel.push_back(1.72501);
114   lel.push_back(3.12004);
115   lel.push_back(3.38969);
116   lel.push_back(1.77564);
117   lel.push_back(2.824);
118   lel.push_back(1.79933);
119   lel.push_back(2.854);
120   lel.push_back(2.12438);
121   lel.push_back(2.08152);
122   lel.push_back(3.56216);
123   lel.push_back(3.56477);
124   lel.push_back(2.523);
125   lel.push_back(3.57404);
126   lel.push_back(3.60876);
127   lel.push_back(3.87129);
128   lel.push_back(2.2168);
129   lel.push_back(1.98754);
130   lel.push_back(2.72584);
131   lel.push_back(2.23254);
132   lel.push_back(3.60235);
133   lel.push_back(2.24013);
134   lel.push_back(2.18519);
135   lel.push_back(3.58238);
136   lel.push_back(2.24048);
137   lel.push_back(2.35745);
138   lel.push_back(2.56684);
139   lel.push_back(0.426);
140   lel.push_back(2.40178);
141   lel.push_back(2.426);
142   lel.push_back(3.61123);
143   lel.push_back(3.56579);
144   lel.push_back(2.02633);
```



```
145    lel.push_back(2.18518);
146    lel.push_back(2.68441);
147    lel.push_back(2.699);
148    lel.push_back(2.40141);
149    lel.push_back(3.61902);
150    lel.push_back(2.31441);
151    lel.push_back(3.61187);
152    lel.push_back(3.55317);
153    lel.push_back(5.079);
154    lel.push_back(3.59341);
155    lel.push_back(0.949);
156    lel.push_back(2.28147);
157    lel.push_back(2.597);
158    lel.push_back(2.011);
159    lel.push_back(3.56275);
160    lel.push_back(2.66417);
161    lel.push_back(2.57369);
162    lel.push_back(3.26);
163    lel.push_back(3.903);
164    lel.push_back(2.41926);
165    lel.push_back(3.86018);
166    lel.push_back(2.13966);
167    lel.push_back(3.43033);
168    lel.push_back(3.63483);
169    lel.push_back(2.38407);
170    lel.push_back(3.57102);
171    lel.push_back(3.63615);
172    lel.push_back(1.9162);
173    lel.push_back(3.60566);
174    lel.push_back(3.57099);
175    lel.push_back(2.574);
176    lel.push_back(3.389);
177    lel.push_back(3.69575);
178    lel.push_back(2.98186);
179    lel.push_back(2.28822);
180    lel.push_back(3.176);
181    lel.push_back(3.58673);
182    lel.push_back(3.699);
183    lel.push_back(4.301);
184    lel.push_back(3.56201);
185    lel.push_back(3.17507);
186    lel.push_back(3.00924);
187    lel.push_back(3.56148);
188    lel.push_back(3.079);
189    lel.push_back(3.62097);
190    lel.push_back(1.83442);
191    lel.push_back(3.255);
192    lel.push_back(2.879);
```



```
193     lel.push_back(2.74572);
194     lel.push_back(2.34836);
195     lel.push_back(4.523);
196     lel.push_back(3.079);
197     lel.push_back(2.01325);
198     lel.push_back(3.54424);
199     lel.push_back(2.64458);
200     lel.push_back(1.96264);
201     lel.push_back(3.54462);
202     lel.push_back(3.59127);
203     lel.push_back(4.301);
204     lel.push_back(2.38407);
205     lel.push_back(3.921);
206     lel.push_back(2.4644);
207     lel.push_back(2.83318);
208     lel.push_back(3.347);
209     lel.push_back(4.222);
210     lel.push_back(3.01574);
211     lel.push_back(2.45544);
212     lel.push_back(2.90196);
213     lel.push_back(2.59563);
214     lel.push_back(2.34912);
215     lel.push_back(1.962);
216     lel.push_back(3.721);
217     lel.push_back(3.62926);
218     lel.push_back(2.99566);
219     lel.push_back(1.204);
220     lel.push_back(2.43649);
221     lel.push_back(4.745);
222     lel.push_back(2.83223);
223     lel.push_back(3.42454);
224     lel.push_back(2.44751);
225     lel.push_back(3.02188);
226     lel.push_back(3.98287);
227     lel.push_back(2.8013);
228     lel.push_back(2.34912);
229     lel.push_back(1.86535);
230     lel.push_back(3.678);
231     lel.push_back(5.079);
232     lel.push_back(3.61277);
233     lel.push_back(2.24844);
234     lel.push_back(3.00924);
235     lel.push_back(1.97498);
236     lel.push_back(2.17759);
237     lel.push_back(3.56188);
238     lel.push_back(3.59066);
239     lel.push_back(2.29822);
240     lel.push_back(3.37469);
```



```
241     lel.push_back(4.301);
242     lel.push_back(2.33993);
243     lel.push_back(3.56252);
244     lel.push_back(3.18774);
245     lel.push_back(3.56351);
246     lel.push_back(3.59257);
247     lel.push_back(3.62293);
248     lel.push_back(2.08091);
249     lel.push_back(1.83899);
250     lel.push_back(2.87926);
251     lel.push_back(2.64292);
252     lel.push_back(2.45544);
253     lel.push_back(4.347);
254     lel.push_back(3.469);
255     lel.push_back(3.02442);
256     lel.push_back(3.204);
257     lel.push_back(2.08065);
258     lel.push_back(1.88357);
259     lel.push_back(3.824);
260     lel.push_back(3.57228);
261     lel.push_back(3.5675);
262     lel.push_back(2.87977);
263     lel.push_back(2.49104);
264     lel.push_back(2.24809);
265     lel.push_back(2.23254);
266     lel.push_back(1.98752);
267     lel.push_back(4);
268     lel.push_back(3.56211);
269     lel.push_back(3.5855);
270     lel.push_back(3.58851);
271     lel.push_back(2.92733);
272     lel.push_back(2.60472);
273     lel.push_back(3.57722);
274     lel.push_back(1.699);
275     lel.push_back(2.62435);
276     lel.push_back(3.56594);
277     lel.push_back(3.54462);
278     lel.push_back(3.82528);
279     lel.push_back(2.36616);
280     lel.push_back(3.5158);
281     lel.push_back(4.602);
282     lel.push_back(3.53884);
283     lel.push_back(3.58841);
284     lel.push_back(2.53789);
285     lel.push_back(2.12454);
286     lel.push_back(4.602);
287     lel.push_back(3.56035);
288     lel.push_back(2.47296);
```



```
289    lel.push_back(3.56479);
290    lel.push_back(2.51006);
291    lel.push_back(3.55157);
292    lel.push_back(3.57103);
293    lel.push_back(2.58533);
294    lel.push_back(2.91494);
295    lel.push_back(3.47964);
296    lel.push_back(1.815);
297    lel.push_back(1.88357);
298    lel.push_back(2.52843);
299    lel.push_back(2.08348);
300    lel.push_back(2.68745);
301    lel.push_back(3.56875);
302    lel.push_back(2.301);
303    lel.push_back(2.56566);
304    lel.push_back(3.62);
305    lel.push_back(3.4817);
306    lel.push_back(2.29824);
307    lel.push_back(3.62226);
308    lel.push_back(1.99406);
309    lel.push_back(3.6416);
310    lel.push_back(1.875);
311    lel.push_back(2.83221);
312    lel.push_back(2.301);
313    lel.push_back(3.491);
314    lel.push_back(3);
315    lel.push_back(2.40141);
316    lel.push_back(2.23254);
317    lel.push_back(2.15464);
318    lel.push_back(3.48085);
319    lel.push_back(3.57954);
320    lel.push_back(3.56443);
321    lel.push_back(2.08122);
322    lel.push_back(2.36133);
323    lel.push_back(2.90299);
324    lel.push_back(2.38);
325    lel.push_back(2.50041);
326    lel.push_back(2.23219);
327    lel.push_back(3.079);
328    lel.push_back(1.98136);
329    lel.push_back(3.481);
330    lel.push_back(3.69065);
331    lel.push_back(3.56193);
332    lel.push_back(3.57568);
333    lel.push_back(2.60473);
334    lel.push_back(2.13917);
335    lel.push_back(2.15757);
336    lel.push_back(3);
```



```
337     lel.push_back(3.57604);
338     lel.push_back(3.58937);
339     lel.push_back(2.2011);
340     lel.push_back(2.23288);
341     lel.push_back(2.50966);
342     lel.push_back(2.52843);
343     lel.push_back(3.824);
344     lel.push_back(2.28466);
345     lel.push_back(2.7661);
346     lel.push_back(1.602);
347     lel.push_back(3.37148);
348     lel.push_back(2.08852);
349     lel.push_back(3.56228);
350     lel.push_back(4.921);
351     lel.push_back(1.77569);
352     lel.push_back(1.77197);
353     lel.push_back(1.699);
354     lel.push_back(3.79293);
355     lel.push_back(3.56856);
356     lel.push_back(2.514);
357     lel.push_back(2.74617);
358     lel.push_back(2.47297);
359     lel.push_back(2.18518);
360     lel.push_back(2.53851);
361     lel.push_back(2.12454);
362     lel.push_back(3.56394);
363     lel.push_back(2.06027);
364     lel.push_back(3.875);
365     lel.push_back(4.778);
366     lel.push_back(2.347);
367     lel.push_back(4.176);
368     lel.push_back(3.56162);
369     lel.push_back(2.79989);
370     lel.push_back(2.076);
371     lel.push_back(4.477);
372     lel.push_back(3.66323);
373     lel.push_back(1.76815);
374     lel.push_back(2.738);
375     lel.push_back(3.56149);
376     lel.push_back(2.28217);
377     lel.push_back(2.33151);
378     lel.push_back(3.523);
379     lel.push_back(2.473);
380     lel.push_back(3.903);
381     lel.push_back(3.59335);
382     lel.push_back(3.477);
383     lel.push_back(2.98184);
384     lel.push_back(3.523);
```



```
385     lel.push_back(2.783);
386     lel.push_back(3.56158);
387     lel.push_back(3.56442);
388     lel.push_back(2.222);
389     lel.push_back(3.046);
390     lel.push_back(3.7573);
391     lel.push_back(3.56658);
392     lel.push_back(3.57016);
393     lel.push_back(2.125);
394     lel.push_back(3.6372);
395     lel.push_back(1.85538);
396     lel.push_back(1.91049);
397     lel.push_back(2.69226);
398     lel.push_back(3.68612);
399     lel.push_back(3.125);
400     lel.push_back(2.95431);
401     lel.push_back(2.29787);
402     lel.push_back(3.58548);
403     lel.push_back(3.56826);
404     lel.push_back(3.959);
405     lel.push_back(3.60666);
406     lel.push_back(2.176);
407     lel.push_back(3.22249);
408     lel.push_back(3.58841);
409     lel.push_back(2.44539);
410     lel.push_back(3.00989);
411     lel.push_back(2.08076);
412     lel.push_back(3.602);
413     lel.push_back(3.40395);
414     lel.push_back(2.176);
415     lel.push_back(3.56846);
416     lel.push_back(2.03994);
417     lel.push_back(3.56155);
418     lel.push_back(2.34912);
419     lel.push_back(3.56921);
420     lel.push_back(3.56278);
421     lel.push_back(2.98305);
422     lel.push_back(3.699);
423     lel.push_back(3.45858);
424     lel.push_back(3.59873);
425     lel.push_back(2.32169);
426     lel.push_back(2.05318);
427     lel.push_back(3.59449);
428     lel.push_back(2.80888);
429     lel.push_back(2.523);
430     lel.push_back(2.70515);
431     lel.push_back(2.12422);
432     lel.push_back(4.921);
```



```
433     lel.push_back(2.176);
434     lel.push_back(2.13184);
435     lel.push_back(3.5777);
436     lel.push_back(2.76658);
437     lel.push_back(3.56381);
438     lel.push_back(3.678);
439     lel.push_back(2.41926);
440     lel.push_back(2.56603);
441     lel.push_back(2.477);
442     lel.push_back(2.24048);
443     lel.push_back(3.72589);
444     lel.push_back(2.31514);
445     lel.push_back(4.44444);
446     lel.push_back(3.59761);
447     lel.push_back(3.61567);
448     lel.push_back(3.58745);
449     lel.push_back(2.409);
450     lel.push_back(3.125);
451     lel.push_back(2.20866);
452     lel.push_back(2.80981);
453     lel.push_back(2.45504);
454     lel.push_back(3.67527);
455     lel.push_back(2.40482);
456     lel.push_back(2.65372);
457     lel.push_back(2.28466);
458     lel.push_back(2.47364);
459     lel.push_back(2.54775);
460     lel.push_back(2.16998);
461     lel.push_back(2.78774);
462     lel.push_back(3.50527);
463     lel.push_back(4.155);
464     lel.push_back(3.57949);
465     lel.push_back(3.56682);
466     lel.push_back(4.602);
467     lel.push_back(2.17031);
468     lel.push_back(3.47809);
469     lel.push_back(2.74435);
470     lel.push_back(2.85521);
471     lel.push_back(2.4109);
472     lel.push_back(2.34912);
473     lel.push_back(3.56876);
474     lel.push_back(3.92153);
475     lel.push_back(3.58686);
476     lel.push_back(2.85475);
477     lel.push_back(2.204);
478     lel.push_back(2.12457);
479     lel.push_back(1.9162);
480     lel.push_back(2.95431);
```



```
481     lel.push_back(2.04239);
482     lel.push_back(2.727);
483     lel.push_back(2.33189);
484     lel.push_back(2.53207);
485     lel.push_back(3.56635);
486     lel.push_back(2.83366);
487     lel.push_back(2.824);
488     lel.push_back(1.89441);
489     lel.push_back(3.272);
490     lel.push_back(2.78822);
491     lel.push_back(3.78067);
492     lel.push_back(1.91572);
493     lel.push_back(2.06696);
494     lel.push_back(2.62351);
495     lel.push_back(3.56158);
496     lel.push_back(3.56445);
497     lel.push_back(3.65455);
498     lel.push_back(3.56186);
499     lel.push_back(2.64329);
500     lel.push_back(2.22466);
501     lel.push_back(3.56875);
502     lel.push_back(2.2245);
503     lel.push_back(2.45466);
504     lel.push_back(3.5787);
505     lel.push_back(3.56153);
506     lel.push_back(3.284);
507     lel.push_back(3.57565);
508     lel.push_back(3.78906);
509     lel.push_back(2.38407);
510     lel.push_back(2.12454);
511     lel.push_back(4.699);
512     lel.push_back(3.68105);
513     lel.push_back(3.42791);
514     lel.push_back(3.56048);
515     lel.push_back(3.5988);
516     lel.push_back(3.201);
517     lel.push_back(3.255);
518     lel.push_back(3.56147);
519     lel.push_back(3.56135);
520     lel.push_back(2.60472);
521     lel.push_back(3.17351);
522     lel.push_back(3.56777);
523     lel.push_back(3.56929);
524     lel.push_back(3.56166);
525     lel.push_back(3.6582);
526     lel.push_back(2.38708);
527     lel.push_back(3.1783);
528     lel.push_back(3.3731);
```



```
529     lel.push_back(4.255);
530     lel.push_back(3.57166);
531     lel.push_back(3.59755);
532     lel.push_back(3.56429);
533     lel.push_back(2.47297);
534     lel.push_back(3.63905);
535     lel.push_back(2.82146);
536     lel.push_back(3.5776);
537     lel.push_back(3.01117);
538     lel.push_back(0.602);
539     lel.push_back(3.5164);
540     lel.push_back(2.66417);
541     lel.push_back(2.38407);
542     lel.push_back(3.34964);
543     lel.push_back(3.56987);
544     lel.push_back(3.59811);
545     lel.push_back(3.56233);
546     lel.push_back(2.54775);
547     lel.push_back(3.55895);
548     lel.push_back(2.17741);
549     lel.push_back(3.60011);
550     lel.push_back(0.924);
551     lel.push_back(4);
552     lel.push_back(2.01981);
553     lel.push_back(3.56206);
554     lel.push_back(3.56625);
555     lel.push_back(2);
556     lel.push_back(3.824);
557     lel.push_back(2.74437);
558     lel.push_back(3.54451);
559     lel.push_back(3.52456);
560     lel.push_back(4.222);
561     lel.push_back(4);
562     lel.push_back(2.2808);
563     lel.push_back(4.149);
564     lel.push_back(2.602);
565     lel.push_back(3.48174);
566     lel.push_back(2.23219);
567     lel.push_back(3.56688);
568     lel.push_back(2.875);
569     lel.push_back(3.58623);
570     lel.push_back(2.52284);
571     lel.push_back(1.89972);
572     lel.push_back(5.959);
573     lel.push_back(3.57224);
574     lel.push_back(3.57489);
575     lel.push_back(3.55528);
576     lel.push_back(3.63129);
```



```
577     lel.push_back(3.632);
578     lel.push_back(2.12454);
579     lel.push_back(4.301);
580     lel.push_back(2.778);
581     lel.push_back(2.38407);
582     lel.push_back(3.60571);
583     lel.push_back(3.89375);
584     lel.push_back(2.778);
585     lel.push_back(3.477);
586     lel.push_back(2.125);
587     lel.push_back(2.477);
588     lel.push_back(2.002);
589     lel.push_back(2.90301);
590     lel.push_back(3.68464);
591     lel.push_back(3);
592     lel.push_back(3.0245);
593     lel.push_back(1.88376);
594     lel.push_back(1.81202);
595     lel.push_back(2.00007);
596     lel.push_back(3.84979);
597     lel.push_back(2.06739);
598     lel.push_back(3.56253);
599     lel.push_back(2.25516);
600     lel.push_back(2.979);
601     lel.push_back(2.01981);
602     lel.push_back(3.66);
603     lel.push_back(2.18055);
604     lel.push_back(3.6561);
605     lel.push_back(3.076);
606     lel.push_back(3.5811);
607     lel.push_back(3.824);
608     lel.push_back(3.63904);
609     lel.push_back(2.40178);
610     lel.push_back(2.00046);
611     lel.push_back(3.49399);
612     lel.push_back(3.87496);
613     lel.push_back(3.301);
614     lel.push_back(1.301);
615     lel.push_back(2.08154);
616     lel.push_back(3.75111);
617     lel.push_back(2.08091);
618     lel.push_back(2.21645);
619     lel.push_back(1.80779);
620     lel.push_back(3.699);
621     lel.push_back(4);
622     lel.push_back(3.56828);
623     lel.push_back(3);
624     lel.push_back(3.60098);
```



```
625    lel.push_back(2.63488);
626    lel.push_back(2.29858);
627    lel.push_back(3.56684);
628    lel.push_back(2.74617);
629    lel.push_back(2.41817);
630    lel.push_back(0.171);
631    lel.push_back(3.56474);
632    lel.push_back(2.64312);
633    lel.push_back(3.90792);
634    lel.push_back(4.201);
635    lel.push_back(3.56008);
636    lel.push_back(3.699);
637    lel.push_back(3.62097);
638    lel.push_back(2.24844);
639    lel.push_back(2.69798);
640    lel.push_back(2.83226);
641    lel.push_back(3.64784);
642    lel.push_back(3.79829);
643    lel.push_back(3.57788);
644    lel.push_back(4.018);
645    lel.push_back(3.721);
646    lel.push_back(1.8533);
647    lel.push_back(1.955);
648    lel.push_back(2.658);
649    lel.push_back(3.78109);
650    lel.push_back(3.62227);
651    lel.push_back(4.155);
652    lel.push_back(4);
653    lel.push_back(2.921);
654    lel.push_back(2.10979);
655    lel.push_back(2.398);
656    lel.push_back(1.842);
657    lel.push_back(3.00924);
658    lel.push_back(2.23256);
659    lel.push_back(3.8184);
660    lel.push_back(3.58432);
661    lel.push_back(3.58206);
662    lel.push_back(4.301);
663    lel.push_back(3.48114);
664    lel.push_back(3.40333);
665    lel.push_back(2.54775);
666    lel.push_back(4.155);
667    lel.push_back(2.875);
668    lel.push_back(3.72178);
669    lel.push_back(3.56131);
670    lel.push_back(3.234);
671    lel.push_back(3.57226);
672    lel.push_back(2.47336);
```



```
673     lel.push_back(3.032);
674     lel.push_back(4.347);
675     lel.push_back(3.59163);
676     lel.push_back(4);
677     lel.push_back(1.98725);
678     lel.push_back(3.6033);
679     lel.push_back(3.37151);
680     lel.push_back(3.268);
681     lel.push_back(2.28132);
682     lel.push_back(2.68355);
683     lel.push_back(3.56777);
684     lel.push_back(2.54775);
685     lel.push_back(3.6466);
686     lel.push_back(2.08061);
687     lel.push_back(3.851);
688     lel.push_back(2.66417);
689     lel.push_back(3.56411);
690     lel.push_back(3.56267);
691     lel.push_back(2.12454);
692     lel.push_back(3.65554);
693     lel.push_back(3.59706);
694     lel.push_back(2.08122);
695     lel.push_back(1.77568);
696     lel.push_back(3.56147);
697     lel.push_back(2.26451);
698     lel.push_back(4.824);
699     lel.push_back(2.409);
700     lel.push_back(2.176);
701     lel.push_back(2.16998);
702     lel.push_back(2.29822);
703     lel.push_back(2.2168);
704     lel.push_back(2.45314);
705     lel.push_back(3.56233);
706     lel.push_back(3.61848);
707     lel.push_back(2.602);
708     lel.push_back(4.046);
709     lel.push_back(3.56543);
710     lel.push_back(2.523);
711     lel.push_back(2.68484);
712     lel.push_back(0.824);
713     lel.push_back(5);
714     lel.push_back(2.357);
715     lel.push_back(3.699);
716     lel.push_back(2.65332);
717     lel.push_back(3.5988);
718     lel.push_back(3.66084);
719     lel.push_back(1.9629);
720     lel.push_back(2.43689);
```



```
721     lel.push_back(4.176);
722     lel.push_back(3.58628);
723     lel.push_back(2.03949);
724     lel.push_back(1.99351);
725     lel.push_back(2.01335);
726     lel.push_back(2.23288);
727     lel.push_back(2.81028);
728     lel.push_back(2.46362);
729     lel.push_back(3.61048);
730     lel.push_back(3.347);
731     lel.push_back(1.91073);
732     lel.push_back(2.10236);
733     lel.push_back(3.778);
734     lel.push_back(2.574);
735     lel.push_back(3.59385);
736     lel.push_back(3.561);
737     lel.push_back(3.93096);
738     lel.push_back(2.98065);
739     lel.push_back(3.5003);
740     lel.push_back(3.56263);
741     lel.push_back(2.78867);
742     lel.push_back(3.60752);
743     lel.push_back(1.89441);
744     lel.push_back(3.51175);
745     lel.push_back(3.71478);
746     lel.push_back(3.56216);
747     lel.push_back(3.56158);
748     lel.push_back(2.74305);
749     lel.push_back(3.56298);
750     lel.push_back(2.81);
751     lel.push_back(2.68484);
752     lel.push_back(3.66063);
753     lel.push_back(3.58979);
754     lel.push_back(3.62097);
755     lel.push_back(3.56777);
756     lel.push_back(2.62374);
757     lel.push_back(2.41319);
758     lel.push_back(3.079);
759     lel.push_back(3.70698);
760     lel.push_back(3.07542);
761     lel.push_back(3.127);
762     lel.push_back(4.301);
763     lel.push_back(3.56378);
764     lel.push_back(3.64845);
765     lel.push_back(2.03737);
766     lel.push_back(2.00031);
767     lel.push_back(3.54123);
768     lel.push_back(2.8999);
```



```
769     lel.push_back(2.32278);
770     lel.push_back(2.33224);
771     lel.push_back(2.35725);
772     lel.push_back(3.653);
773     lel.push_back(2.301);
774     lel.push_back(3.176);
775     lel.push_back(2.29323);
776     lel.push_back(3.58413);
777     lel.push_back(3.58047);
778     lel.push_back(2.125);
779     lel.push_back(2.02631);
780     lel.push_back(1.80361);
781     lel.push_back(2.85521);
782     lel.push_back(3.56159);
783     lel.push_back(2.903);
784     lel.push_back(3.569);
785     lel.push_back(2.2168);
786     lel.push_back(2.10979);
787     lel.push_back(2.778);
788     lel.push_back(1.98752);
789     lel.push_back(4.363);
790     lel.push_back(3.337);
791     lel.push_back(3.481);
792     lel.push_back(2.74527);
793     lel.push_back(3.4221);
794     lel.push_back(2.201);
795     lel.push_back(2.15399);
796     lel.push_back(3.56683);
797     lel.push_back(3.64967);
798     lel.push_back(2.778);
799     lel.push_back(3.602);
800     lel.push_back(3.61546);
801     lel.push_back(2.8107);
802     lel.push_back(2.91319);
803     lel.push_back(2.12454);
804     lel.push_back(2.23222);
805     lel.push_back(2.34067);
806     lel.push_back(2.28181);
807     lel.push_back(3.58198);
808     lel.push_back(2.54816);
809     lel.push_back(2.02587);
810     lel.push_back(3.65686);
811     lel.push_back(2.78867);
812     lel.push_back(3.56135);
813     lel.push_back(3.64634);
814     lel.push_back(2.17591);
815     lel.push_back(3.73363);
816     lel.push_back(3.56274);
```



```
817     lel.push_back(3.72298);
818     lel.push_back(5.255);
819     lel.push_back(3.58736);
820     lel.push_back(2.54694);
821     lel.push_back(3.56262);
822     lel.push_back(0.824);
823     lel.push_back(3.63347);
824     lel.push_back(1.824);
825     lel.push_back(3.58426);
826     lel.push_back(2.15434);
827     lel.push_back(2.15464);
828     lel.push_back(2.70445);
829     lel.push_back(3.57729);
830     lel.push_back(1.98779);
831     lel.push_back(3.5787);
832     lel.push_back(3.909);
833     lel.push_back(2.51045);
834     lel.push_back(3.697);
835     lel.push_back(4.778);
836     lel.push_back(3.61095);
837     lel.push_back(3.52481);
838     lel.push_back(2.43153);
839     lel.push_back(2.31514);
840     lel.push_back(2.959);
841     lel.push_back(3.70384);
842     lel.push_back(4.00609);
843     lel.push_back(3.57338);
844     lel.push_back(3.58444);
845     lel.push_back(1.77553);
846     lel.push_back(1.77945);
847     lel.push_back(5.097);
848     lel.push_back(3.58648);
849     lel.push_back(3.49423);
850     lel.push_back(5.824);
851     lel.push_back(3.778);
852     lel.push_back(3.51903);
853     lel.push_back(4.523);
854     lel.push_back(2.92703);
855     lel.push_back(2.60475);
856     lel.push_back(3.57208);
857     lel.push_back(3.61564);
858     lel.push_back(2);
859     lel.push_back(2.38407);
860     lel.push_back(2.00031);
861     lel.push_back(2.20089);
862     lel.push_back(3.56073);
863     lel.push_back(2.1766);
864     lel.push_back(3.64787);
```



```
865     lel.push_back(4.48132);
866     lel.push_back(3.68869);
867     lel.push_back(2.799);
868     lel.push_back(2.18518);
869     lel.push_back(3.538);
870     lel.push_back(2.46556);
871     lel.push_back(3);
872     lel.push_back(3.574);
873     lel.push_back(3.61781);
874     lel.push_back(1.91073);
875     lel.push_back(2.40178);
876     lel.push_back(3.53901);
877     lel.push_back(6);
878     lel.push_back(2.824);
879     lel.push_back(3.60217);
880     lel.push_back(5);
881     lel.push_back(2.66399);
882     lel.push_back(3.222);
883     lel.push_back(2.398);
884     lel.push_back(2.02631);
885     lel.push_back(3.71101);
886     lel.push_back(1.903);
887     lel.push_back(3.57569);
888     lel.push_back(4.66);
889     lel.push_back(2.24013);
890     lel.push_back(2.80977);
891     lel.push_back(2.11731);
892     lel.push_back(3.173);
893     lel.push_back(3.56921);
894     lel.push_back(3.79296);
895     lel.push_back(3.176);
896     lel.push_back(3.56344);
897     lel.push_back(3.51491);
898     lel.push_back(2.53848);
899     lel.push_back(3);
900     lel.push_back(3.56147);
901     lel.push_back(2.602);
902     lel.push_back(3.56158);
903     lel.push_back(2.824);
904     lel.push_back(3.56274);
905     lel.push_back(3.52447);
906     lel.push_back(2.9813);
907     lel.push_back(2.76655);
908     lel.push_back(3.721);
909     lel.push_back(2.51364);
910     lel.push_back(1.89441);
911     lel.push_back(1.83008);
912     lel.push_back(2.23288);
```



```
913     lel.push_back(2);
914     lel.push_back(2.24844);
915     lel.push_back(2.31441);
916     lel.push_back(2.7457);
917     lel.push_back(3.53687);
918     lel.push_back(3.56297);
919     lel.push_back(2.35725);
920     lel.push_back(2.47297);
921     lel.push_back(2.34029);
922     lel.push_back(4.176);
923     lel.push_back(3.45022);
924     lel.push_back(2.90354);
925     lel.push_back(3.004);
926     lel.push_back(2.66417);
927     lel.push_back(3.84653);
928     lel.push_back(2.38371);
929     lel.push_back(3.5905);
930     lel.push_back(2.60515);
931     lel.push_back(2.648);
932     lel.push_back(3.778);
933     lel.push_back(3.56252);
934     lel.push_back(2.60545);
935     lel.push_back(2.77);
936     lel.push_back(2.78867);
937     lel.push_back(2.72517);
938     lel.push_back(2.875);
939     lel.push_back(3.59712);
940     lel.push_back(2.699);
941     lel.push_back(3.56201);
942     lel.push_back(3.943);
943     lel.push_back(1.79949);
944     lel.push_back(3.67595);
945     lel.push_back(2.85517);
946     lel.push_back(2.02633);
947     lel.push_back(3.84346);
948     lel.push_back(2.38371);
949     lel.push_back(2.09555);
950     lel.push_back(3.357);
951     lel.push_back(3.56704);
952     lel.push_back(2.21645);
953     lel.push_back(2.22466);
954     lel.push_back(3.56254);
955     lel.push_back(3.67722);
956     lel.push_back(2.875);
957     lel.push_back(2.36614);
958     lel.push_back(3.57573);
959     lel.push_back(2.699);
960     lel.push_back(1.96905);
```



```
961     lel.push_back(2.62);
962     lel.push_back(3.55891);
963     lel.push_back(2.875);
964     lel.push_back(3.40333);
965     lel.push_back(3.58151);
966     lel.push_back(2.26486);
967     lel.push_back(3.22637);
968     lel.push_back(3.57819);
969     lel.push_back(2.99721);
970     lel.push_back(3.57007);
971     lel.push_back(1.90507);
972     lel.push_back(2.86791);
973     lel.push_back(4.079);
974     lel.push_back(3.5164);
975     lel.push_back(2.40178);
976     lel.push_back(1.98752);
977     lel.push_back(3.58289);
978     lel.push_back(1.951);
979     lel.push_back(3.60566);
980     lel.push_back(4.011);
981     lel.push_back(3.54711);
982     lel.push_back(3.551);
983     lel.push_back(3.456);
984     lel.push_back(3.64656);
985     lel.push_back(2.90354);
986     lel.push_back(2.398);
987     lel.push_back(1.83475);
988     lel.push_back(2.36577);
989     lel.push_back(3.54441);
990     lel.push_back(3.71766);
991     lel.push_back(3.927);
992     lel.push_back(2.90299);
993     lel.push_back(2.06739);
994     lel.push_back(3.5843);
995     lel.push_back(3.55528);
996     lel.push_back(3);
997     lel.push_back(1.85317);
998     lel.push_back(3.54936);
999     lel.push_back(2.34067);
1000    lel.push_back(3.204);
1001    lel.push_back(3.57634);
1002    lel.push_back(3.56637);
1003    lel.push_back(4.745);
1004    lel.push_back(2.933);
1005    lel.push_back(2.699);
1006    lel.push_back(3.53701);
1007    lel.push_back(4.194);
1008    lel.push_back(2.079);
```



```
1009    lel.push_back(3.56986);
1010    lel.push_back(3.37229);
1011    lel.push_back(2.48239);
1012    lel.push_back(1.84395);
1013    lel.push_back(2.33186);
1014    lel.push_back(2.52922);
1015    lel.push_back(3.58075);
1016    lel.push_back(1.75041);
1017    lel.push_back(3.5686);
1018    lel.push_back(1.98779);
1019    lel.push_back(3.57066);
1020    lel.push_back(3.778);
1021    lel.push_back(2.778);
1022    lel.push_back(3.58282);
1023    lel.push_back(4.046);
1024    lel.push_back(3.54462);
1025    lel.push_back(2.85693);
1026    lel.push_back(2.87773);
1027    lel.push_back(3.58683);
1028    lel.push_back(3.11903);
1029    lel.push_back(2.18551);
1030    lel.push_back(2.87823);
1031    lel.push_back(1.9629);
1032    lel.push_back(3.62661);
1033    lel.push_back(3.62469);
1034    lel.push_back(2.482);
1035    lel.push_back(5.155);
1036    lel.push_back(2.26522);
1037    lel.push_back(3.699);
1038    lel.push_back(2.301);
1039    lel.push_back(3.95339);
1040    lel.push_back(3.61048);
1041    lel.push_back(2.873);
1042    lel.push_back(3.40509);
1043    lel.push_back(3.778);
1044    lel.push_back(2.47297);
1045    lel.push_back(4);
1046    lel.push_back(3.56156);
1047    lel.push_back(3.56217);
1048    lel.push_back(1.90507);
1049    lel.push_back(2.08122);
1050    lel.push_back(3.62887);
1051    lel.push_back(3.56155);
1052    lel.push_back(2.78867);
1053    lel.push_back(3.67372);
1054    lel.push_back(5);
1055    lel.push_back(3.04232);
1056    lel.push_back(0.699);
```



```
1057     lel.push_back(2.06709);
1058     lel.push_back(2.40178);
1059     lel.push_back(3.523);
1060     lel.push_back(3.56477);
1061     lel.push_back(3.56122);
1062     lel.push_back(2.12454);
1063     lel.push_back(4.176);
1064     lel.push_back(3.57287);
1065     lel.push_back(3.54937);
1066     lel.push_back(2.398);
1067     lel.push_back(2.67493);
1068     lel.push_back(3.903);
1069     lel.push_back(3.57637);
1070     lel.push_back(3.35068);
1071     lel.push_back(2.31478);
1072     lel.push_back(3.37238);
1073     lel.push_back(1.92746);
1074     lel.push_back(2.51883);
1075     lel.push_back(2.40178);
1076     lel.push_back(2.8);
1077     lel.push_back(3.56324);
1078     lel.push_back(3.60565);
1079     lel.push_back(3.6595);
1080     lel.push_back(3.49501);
1081     lel.push_back(3.61963);
1082     lel.push_back(2.477);
1083     lel.push_back(3.66806);
1084     lel.push_back(3.57944);
1085     lel.push_back(2.66553);
1086     lel.push_back(3.60227);
1087     lel.push_back(4.05776);
1088     lel.push_back(2.759);
1089     lel.push_back(3.875);
1090     lel.push_back(3.49315);
1091     lel.push_back(1.9162);
1092     lel.push_back(2.778);
1093     lel.push_back(1.824);
1094     lel.push_back(2.22466);
1095     lel.push_back(3.61323);
1096     lel.push_back(3.71766);
1097     lel.push_back(2.49064);
1098     lel.push_back(2.66379);
1099     lel.push_back(3.67207);
1100     lel.push_back(2.155);
1101     lel.push_back(2.6646);
1102     lel.push_back(2.398);
1103     lel.push_back(3.76076);
1104     lel.push_back(2.66417);
```



```
1105    lel.push_back(2.301);
1106    lel.push_back(3.301);
1107    lel.push_back(1.77181);
1108    lel.push_back(2.81058);
1109    lel.push_back(3.57012);
1110    lel.push_back(3.77252);
1111    lel.push_back(3.61247);
1112    lel.push_back(3.1108);
1113    lel.push_back(2.40178);
1114    lel.push_back(3.621);
1115    lel.push_back(3.56145);
1116    lel.push_back(3.56516);
1117    lel.push_back(2.602);
1118    lel.push_back(2.80904);
1119    lel.push_back(2.38351);
1120    lel.push_back(2.699);
1121    lel.push_back(2.99629);
1122    lel.push_back(3.079);
1123    lel.push_back(2.18551);
1124    lel.push_back(3.58128);
1125    lel.push_back(2.648);
1126    lel.push_back(2.1852);
1127    lel.push_back(2.02631);
1128    lel.push_back(5.176);
1129    lel.push_back(3.59974);
1130    lel.push_back(1.8344);
1131    lel.push_back(3.56148);
1132    lel.push_back(5.495);
1133    lel.push_back(2.90354);
1134    lel.push_back(3.477);
1135    lel.push_back(1.98781);
1136    lel.push_back(3.90394);
1137    lel.push_back(3.125);
1138    lel.push_back(3.62758);
1139    lel.push_back(3.56477);
1140    lel.push_back(3.56254);
1141    lel.push_back(3.824);
1142    lel.push_back(2.12422);
1143    lel.push_back(2.64329);
1144    lel.push_back(3.57205);
1145    lel.push_back(3.61306);
1146    lel.push_back(3.56187);
1147    lel.push_back(3.60224);
1148    lel.push_back(2.70231);
1149    lel.push_back(2.09);
1150    lel.push_back(2.903);
1151    lel.push_back(3.00924);
1152    lel.push_back(2.31514);
```



```
1153     lel.push_back(2.28181);
1154     lel.push_back(2.76618);
1155     lel.push_back(2.86666);
1156     lel.push_back(3.56477);
1157     lel.push_back(2.49104);
1158     lel.push_back(2.125);
1159     lel.push_back(1.81);
1160     lel.push_back(3.56479);
1161     lel.push_back(3.53265);
1162     lel.push_back(3.49348);
1163     lel.push_back(3.56275);
1164     lel.push_back(3.56298);
1165     lel.push_back(2.222);
1166     lel.push_back(2.778);
1167     lel.push_back(1.488);
1168     lel.push_back(3);
1169     lel.push_back(2.43786);
1170     lel.push_back(2.12738);
1171     lel.push_back(3.617);
1172     lel.push_back(3.32039);
1173     lel.push_back(3.523);
1174     lel.push_back(3.09656);
1175     lel.push_back(3.56147);
1176     lel.push_back(3.68916);
1177     lel.push_back(3.56226);
1178     lel.push_back(2.824);
1179     lel.push_back(3.62421);
1180     lel.push_back(2.79943);
1181     lel.push_back(3.68864);
1182     lel.push_back(2.903);
1183     lel.push_back(4);
1184     lel.push_back(2.50888);
1185     lel.push_back(3.58887);
1186     lel.push_back(3.56149);
1187     lel.push_back(3.576);
1188     lel.push_back(1.89443);
1189     lel.push_back(4.301);
1190     lel.push_back(1.89418);
1191     lel.push_back(2.56584);
1192     lel.push_back(2.34067);
1193     lel.push_back(2.47297);
1194     lel.push_back(3.62221);
1195     lel.push_back(2.7661);
1196     lel.push_back(3.61243);
1197     lel.push_back(3.301);
1198     lel.push_back(1.83899);
1199     lel.push_back(3.58535);
1200     lel.push_back(4.222);
```



```
1201    lel.push_back(3.40568);
1202    lel.push_back(3.64561);
1203    lel.push_back(2.84491);
1204    lel.push_back(3.57013);
1205    lel.push_back(2.68377);
1206    lel.push_back(3.56275);
1207    lel.push_back(2.70033);
1208    lel.push_back(3.56847);
1209    lel.push_back(3.824);
1210    lel.push_back(2.254);
1211    lel.push_back(3.46556);
1212    lel.push_back(1.91073);
1213    lel.push_back(2.11011);
1214    lel.push_back(2.11731);
1215    lel.push_back(3.75708);
1216    lel.push_back(2.45003);
1217    lel.push_back(2.23288);
1218    lel.push_back(3.67368);
1219    lel.push_back(2.00684);
1220    lel.push_back(3.783);
1221    lel.push_back(1.447);
1222    lel.push_back(1.97523);
1223    lel.push_back(2.41964);
1224    lel.push_back(3);
1225    lel.push_back(2.20055);
1226    lel.push_back(2.85869);
1227    lel.push_back(3.778);
1228    lel.push_back(2.778);
1229    lel.push_back(2.23288);
1230    lel.push_back(3.59546);
1231    lel.push_back(2.68441);
1232    lel.push_back(2.28113);
1233    lel.push_back(2.11011);
1234    lel.push_back(2.23288);
1235    lel.push_back(2.2009);
1236    lel.push_back(1.88357);
1237    lel.push_back(2.29822);
1238    lel.push_back(4.824);
1239    lel.push_back(2.92703);
1240    lel.push_back(2.079);
1241    lel.push_back(3);
1242    lel.push_back(2.7465);
1243    lel.push_back(2.54775);
1244    lel.push_back(3.44895);
1245    lel.push_back(3.721);
1246    lel.push_back(2.47297);
1247    lel.push_back(3.5635);
1248    lel.push_back(3.40915);
```



```
1249    lel.push_back(2.176);
1250    lel.push_back(3.854);
1251    lel.push_back(3.204);
1252    lel.push_back(2.40106);
1253    lel.push_back(2.176);
1254    lel.push_back(3.56149);
1255    lel.push_back(3.60325);
1256    lel.push_back(3.921);
1257    lel.push_back(3.56679);
1258    lel.push_back(2.23219);
1259    lel.push_back(4.903);
1260    lel.push_back(2.699);
1261    lel.push_back(2.05908);
1262    lel.push_back(2.64375);
1263    lel.push_back(3.5687);
1264    lel.push_back(2.23288);
1265    lel.push_back(3.61198);
1266    lel.push_back(4.778);
1267    lel.push_back(3.56931);
1268    lel.push_back(1.95657);
1269    lel.push_back(3.56149);
1270    lel.push_back(3.4814);
1271    lel.push_back(2.01306);
1272    lel.push_back(3.60681);
1273    lel.push_back(3.079);
1274    lel.push_back(3.954);
1275    lel.push_back(3.49476);
1276    lel.push_back(3.56348);
1277    lel.push_back(2.10978);
1278    lel.push_back(2.4564);
1279    lel.push_back(1.92733);
1280    lel.push_back(3.46732);
1281    lel.push_back(3.341);
1282    lel.push_back(3.022);
1283    lel.push_back(2.704);
1284    lel.push_back(2.29787);
1285    lel.push_back(3.56875);
1286    lel.push_back(3.678);
1287    lel.push_back(5.409);
1288    lel.push_back(3.6595);
1289    lel.push_back(2.10949);
1290    lel.push_back(2.60475);
1291    lel.push_back(1.77551);
1292    lel.push_back(2.778);
1293    lel.push_back(6);
1294    lel.push_back(2.125);
1295    lel.push_back(3.58835);
1296    lel.push_back(2.80854);
```



```
1297     lel.push_back(3.56638);
1298     lel.push_back(2.62477);
1299     lel.push_back(2.17725);
1300     lel.push_back(2.301);
1301     lel.push_back(1.68579);
1302     lel.push_back(3.55321);
1303     lel.push_back(5.477);
1304     lel.push_back(2.24812);
1305     lel.push_back(3.58202);
1306     lel.push_back(3.602);
1307     lel.push_back(3.8882);
1308     lel.push_back(2.60515);
1309     lel.push_back(3.91851);
1310     lel.push_back(2.86691);
1311     lel.push_back(2.602);
1312     lel.push_back(2.1456);
1313     lel.push_back(3.60894);
1314     lel.push_back(2.45314);
1315     lel.push_back(2.27652);
1316     lel.push_back(2.76611);
1317     lel.push_back(4.301);
1318     lel.push_back(3.73603);
1319     lel.push_back(2.08061);
1320     lel.push_back(3.71876);
1321     lel.push_back(3.64058);
1322     lel.push_back(3.57288);
1323     lel.push_back(2.01981);
1324     lel.push_back(2.72359);
1325     lel.push_back(4.32909);
1326     lel.push_back(1.98769);
1327     lel.push_back(3.477);
1328     lel.push_back(4.824);
1329     lel.push_back(2.49974);
1330     lel.push_back(3.58975);
1331     lel.push_back(3.56636);
1332     lel.push_back(2.83318);
1333     lel.push_back(2.16965);
1334     lel.push_back(2.77);
1335     lel.push_back(2.75658);
1336     lel.push_back(2.979);
1337     lel.push_back(3.56284);
1338     lel.push_back(1.81219);
1339     lel.push_back(3.57014);
1340     lel.push_back(3.84757);
1341     lel.push_back(2.20022);
1342     lel.push_back(2.392);
1343     lel.push_back(3.63489);
1344     lel.push_back(3.854);
```



```
1345     lel.push_back(2.90248);
1346     lel.push_back(4.176);
1347     lel.push_back(1.477);
1348     lel.push_back(2.34912);
1349     lel.push_back(3.56819);
1350     lel.push_back(3.699);
1351     lel.push_back(2.68441);
1352     lel.push_back(2.33187);
1353     lel.push_back(2.225);
1354     lel.push_back(4.602);
1355     lel.push_back(2.33187);
1356     lel.push_back(3.61963);
1357     lel.push_back(2.45544);
1358     lel.push_back(2.24809);
1359     lel.push_back(4);
1360     lel.push_back(2.85569);
1361     lel.push_back(2.509);
1362     lel.push_back(3);
1363     lel.push_back(2.52922);
1364     lel.push_back(3.38);
1365     lel.push_back(3.56149);
1366     lel.push_back(2.778);
1367     lel.push_back(3.56826);
1368     lel.push_back(2.11699);
1369     lel.push_back(2.46206);
1370     lel.push_back(3.21904);
1371     lel.push_back(2.34634);
1372     lel.push_back(4.204);
1373     lel.push_back(3.61841);
1374     lel.push_back(2.34067);
1375     lel.push_back(2.11011);
1376     lel.push_back(2.00031);
1377     lel.push_back(1.91596);
1378     lel.push_back(2.24016);
1379     lel.push_back(3.58115);
1380     lel.push_back(3.55168);
1381     lel.push_back(3.58837);
1382     lel.push_back(3.07326);
1383     lel.push_back(2.66379);
1384     lel.push_back(2.18518);
1385     lel.push_back(3.235);
1386     lel.push_back(3.57223);
1387     lel.push_back(3.1783);
1388     lel.push_back(2.06739);
1389     lel.push_back(3.56192);
1390     lel.push_back(3.55665);
1391     lel.push_back(3.176);
1392     lel.push_back(3.78169);
```



```
1393     lel.push_back(2.16998);
1394     lel.push_back(2.824);
1395     lel.push_back(3.477);
1396     lel.push_back(3.61369);
1397     lel.push_back(2.41929);
1398     lel.push_back(3.54446);
1399     lel.push_back(2.721);
1400     lel.push_back(4.25);
1401     lel.push_back(2.34912);
1402     lel.push_back(3.658);
1403     lel.push_back(2.71958);
1404     lel.push_back(3.37069);
1405     lel.push_back(3.57791);
1406     lel.push_back(2.36577);
1407     lel.push_back(3.537);
1408     lel.push_back(3.58937);
1409     lel.push_back(1.95567);
1410     lel.push_back(3.62916);
1411     lel.push_back(1.86535);
1412     lel.push_back(3.59102);
1413     lel.push_back(2.29858);
1414     lel.push_back(2.29731);
1415     lel.push_back(3.71501);
1416     lel.push_back(2.52882);
1417     lel.push_back(3.56225);
1418     lel.push_back(2.681);
1419     lel.push_back(3.176);
1420     lel.push_back(1.82989);
1421     lel.push_back(2.145);
1422     lel.push_back(2.8952);
1423     lel.push_back(3.78934);
1424     lel.push_back(3.17667);
1425     lel.push_back(1.9162);
1426     lel.push_back(3.54899);
1427     lel.push_back(2.31479);
1428     lel.push_back(3.42791);
1429     lel.push_back(2.658);
1430     lel.push_back(2.80884);
1431     lel.push_back(2.88335);
1432     lel.push_back(2.92648);
1433     lel.push_back(2.17262);
1434     lel.push_back(3.5846);
1435     lel.push_back(2.21576);
1436     lel.push_back(3.341);
1437     lel.push_back(2.481);
1438     lel.push_back(2.80977);
1439     lel.push_back(2.03964);
1440     lel.push_back(2.61432);
```



```
1441     lel.push_back(3.56273);
1442     lel.push_back(3.5736);
1443     lel.push_back(3.56269);
1444     lel.push_back(3.18375);
1445     lel.push_back(3.56536);
1446     lel.push_back(2.83223);
1447     lel.push_back(3.58284);
1448     lel.push_back(2.49974);
1449     lel.push_back(6.176);
1450     lel.push_back(3.00989);
1451     lel.push_back(2.08123);
1452     lel.push_back(2.06727);
1453     lel.push_back(2.38407);
1454     lel.push_back(3.046);
1455     lel.push_back(2);
1456     lel.push_back(2.41926);
1457     lel.push_back(4);
1458     lel.push_back(3.079);
1459     lel.push_back(3.60689);
1460     lel.push_back(3.57026);
1461     lel.push_back(2.63615);
1462     lel.push_back(3.96596);
1463     lel.push_back(2.61207);
1464     lel.push_back(3);
1465     lel.push_back(3.07704);
1466     lel.push_back(3.72571);
1467     lel.push_back(2.58446);
1468     lel.push_back(2.00048);
1469     lel.push_back(4.125);
1470     lel.push_back(3.57291);
1471     lel.push_back(2.13917);
1472     lel.push_back(2.523);
1473     lel.push_back(2.398);
1474     lel.push_back(1.98752);
1475     lel.push_back(2.50928);
1476     lel.push_back(3.7444);
1477     lel.push_back(2.176);
1478     lel.push_back(3.59729);
1479     lel.push_back(2.23254);
1480     lel.push_back(3.58459);
1481     lel.push_back(3.59925);
1482     lel.push_back(3.77443);
1483     lel.push_back(3.477);
1484     lel.push_back(3.57676);
1485     lel.push_back(3.61628);
1486     lel.push_back(2.34875);
1487     lel.push_back(2.71436);
1488     lel.push_back(2.43649);
```



```
1489    lel.push_back(2.24794);
1490    lel.push_back(2.44479);
1491    lel.push_back(4.64588);
1492    lel.push_back(2.43688);
1493    lel.push_back(2.11033);
1494    lel.push_back(2.09493);
1495    lel.push_back(2.921);
1496    lel.push_back(2.937);
1497    lel.push_back(2.35725);
1498    lel.push_back(2.34067);
1499    lel.push_back(1.98108);
1500    lel.push_back(2.86791);
1501    lel.push_back(6.301);
1502    lel.push_back(3.31883);
1503    lel.push_back(2.92544);
1504    lel.push_back(2.40216);
1505    lel.push_back(4.079);
1506    lel.push_back(2.34912);
1507    lel.push_back(3.6689);
1508    lel.push_back(3.57044);
1509    lel.push_back(2.527);
1510    lel.push_back(3.56414);
1511    lel.push_back(3.64892);
1512    lel.push_back(3.58537);
1513    lel.push_back(2.4014);
1514    lel.push_back(2.875);
1515    lel.push_back(3.63042);
1516    lel.push_back(3.56324);
1517    lel.push_back(2.47296);
1518    lel.push_back(3.56232);
1519    lel.push_back(4.125);
1520    lel.push_back(3.4143);
1521    lel.push_back(3.62549);
1522    lel.push_back(3.0212);
1523    lel.push_back(2.02235);
1524    lel.push_back(1.96917);
1525    lel.push_back(3.56201);
1526    lel.push_back(2.1852);
1527    lel.push_back(3.56638);
1528    lel.push_back(2.64841);
1529    lel.push_back(2.08823);
1530    lel.push_back(3.46707);
1531    lel.push_back(2.28146);
1532    lel.push_back(3.301);
1533    lel.push_back(5.244);
1534    lel.push_back(2.38407);
1535    lel.push_back(3.602);
1536    lel.push_back(3.5625);
```



```
1537     lel.push_back(2.23288);
1538     lel.push_back(1.89972);
1539     lel.push_back(3.5162);
1540     lel.push_back(3.34972);
1541     lel.push_back(3.602);
1542     lel.push_back(3.56915);
1543     lel.push_back(3.60834);
1544     lel.push_back(3.5755);
1545     lel.push_back(3.58746);
1546     lel.push_back(3.61009);
1547     lel.push_back(1.602);
1548     lel.push_back(2.504);
1549     lel.push_back(1.824);
1550     lel.push_back(3.53218);
1551     lel.push_back(2.50888);
1552     lel.push_back(3.56135);
1553     lel.push_back(2.13184);
1554     lel.push_back(2.426);
1555     lel.push_back(3.58085);
1556     lel.push_back(3.301);
1557     lel.push_back(3.55654);
1558     lel.push_back(2.28786);
1559     lel.push_back(2.68484);
1560     lel.push_back(2.789);
1561     lel.push_back(3.56247);
1562     lel.push_back(3.55878);
1563     lel.push_back(3.57124);
1564     lel.push_back(2.824);
1565     lel.push_back(2.046);
1566     lel.push_back(1.96917);
1567     lel.push_back(4);
1568     lel.push_back(5.477);
1569     lel.push_back(3.56499);
1570     lel.push_back(1.93325);
1571     lel.push_back(3.609);
1572     lel.push_back(2.04647);
1573     lel.push_back(3.12004);
1574     lel.push_back(3.56813);
1575     lel.push_back(2.86415);
1576     lel.push_back(3.59095);
1577     lel.push_back(3.55891);
1578     lel.push_back(3.60386);
1579     lel.push_back(4);
1580     lel.push_back(2.20884);
1581     lel.push_back(3.449);
1582     lel.push_back(3.56158);
1583     lel.push_back(3.07628);
1584     lel.push_back(1.477);
```



```
1585     lel.push_back(3.63328);
1586     lel.push_back(2.41964);
1587     lel.push_back(3.60927);
1588     lel.push_back(2.4109);
1589     lel.push_back(2.32532);
1590     lel.push_back(2.83131);
1591     lel.push_back(2.26492);
1592     lel.push_back(2.74617);
1593     lel.push_back(3.59287);
1594     lel.push_back(3.56805);
1595     lel.push_back(2.10979);
1596     lel.push_back(3.5635);
1597     lel.push_back(3.56201);
1598     lel.push_back(2.34836);
1599     lel.push_back(2.78867);
1600     lel.push_back(3.57495);
1601     lel.push_back(1.89972);
1602     lel.push_back(2.15415);
1603     lel.push_back(4.273);
1604     lel.push_back(3.71069);
1605     lel.push_back(3.56155);
1606     lel.push_back(2.426);
1607     lel.push_back(1.796);
1608     lel.push_back(2.17723);
1609     lel.push_back(3.778);
1610     lel.push_back(2.24048);
1611     lel.push_back(1.9744);
1612     lel.push_back(3.125);
1613     lel.push_back(3.79746);
1614     lel.push_back(3.53188);
1615     lel.push_back(3.56515);
1616     lel.push_back(2.35762);
1617     lel.push_back(3.745);
1618     lel.push_back(3.248);
1619     lel.push_back(3.10508);
1620     lel.push_back(2.20866);
1621     lel.push_back(2.62397);
1622     lel.push_back(2.40178);
1623     lel.push_back(2.36614);
1624     lel.push_back(3.284);
1625     lel.push_back(2.982);
1626     lel.push_back(4);
1627     lel.push_back(1.82083);
1628     lel.push_back(3.5467);
1629     lel.push_back(2.87951);
1630     lel.push_back(6);
1631     lel.push_back(2.90354);
1632     lel.push_back(3.86472);
```



```
1633     lel.push_back(4.398);
1634     lel.push_back(4.38);
1635     lel.push_back(2.62393);
1636     lel.push_back(1.523);
1637     lel.push_back(2.64329);
1638     lel.push_back(3.56516);
1639     lel.push_back(3.58969);
1640     lel.push_back(3.449);
1641     lel.push_back(4.176);
1642     lel.push_back(3.53877);
1643     lel.push_back(6.301);
1644     lel.push_back(3.56168);
1645     lel.push_back(3.255);
1646     lel.push_back(2.824);
1647     lel.push_back(1.477);
1648     lel.push_back(2.87);
1649     lel.push_back(3.44895);
1650     lel.push_back(3.7402);
1651     lel.push_back(2.17558);
1652     lel.push_back(3.70163);
1653     lel.push_back(3.56148);
1654     lel.push_back(3.57239);
1655     lel.push_back(1.97523);
1656     lel.push_back(3.875);
1657     lel.push_back(2.2009);
1658     lel.push_back(3.56446);
1659     lel.push_back(3.56776);
1660     lel.push_back(3.60212);
1661     lel.push_back(3.255);
1662     lel.push_back(2.854);
1663     lel.push_back(3.75);
1664     lel.push_back(3.56774);
1665     lel.push_back(4.222);
1666     lel.push_back(3.5618);
1667     lel.push_back(2.13871);
1668     lel.push_back(2.73541);
1669     lel.push_back(3.56158);
1670     lel.push_back(4.176);
1671     lel.push_back(2.34912);
1672     lel.push_back(3.477);
1673     lel.push_back(3.56158);
1674     lel.push_back(3.59223);
1675     lel.push_back(2.55629);
1676     lel.push_back(3.64507);
1677     lel.push_back(3.56364);
1678     lel.push_back(2.903);
1679     lel.push_back(5.678);
1680     lel.push_back(5.125);
```



```
1681     lel.push_back(3.7322);
1682     lel.push_back(2.482);
1683     lel.push_back(3.91);
1684     lel.push_back(2.29858);
1685     lel.push_back(3.56153);
1686     lel.push_back(4.222);
1687     lel.push_back(3.56444);
1688     lel.push_back(3.54927);
1689     lel.push_back(1.9053);
1690     lel.push_back(2.33187);
1691     lel.push_back(3.55602);
1692     lel.push_back(2.24013);
1693     lel.push_back(2.24844);
1694     lel.push_back(3.64959);
1695     lel.push_back(3.58841);
1696     lel.push_back(3.63112);
1697     lel.push_back(3.59863);
1698     lel.push_back(2.28181);
1699     lel.push_back(2.76702);
1700     lel.push_back(2.31478);
1701     lel.push_back(3.58504);
1702     lel.push_back(3.65605);
1703     lel.push_back(2.23254);
1704     lel.push_back(3.477);
1705     lel.push_back(2.921);
1706     lel.push_back(2.585);
1707     lel.push_back(2.799);
1708     lel.push_back(3.61617);
1709     lel.push_back(5.125);
1710     lel.push_back(3.064);
1711     lel.push_back(2.92703);
1712     lel.push_back(2.02633);
1713     lel.push_back(3.56216);
1714     lel.push_back(4.921);
1715     lel.push_back(2.74572);
1716     lel.push_back(3.54462);
1717     lel.push_back(3.59332);
1718     lel.push_back(3.61755);
1719     lel.push_back(2.09556);
1720     lel.push_back(3.86612);
1721     lel.push_back(3.57436);
1722     lel.push_back(2.41926);
1723     lel.push_back(2.50925);
1724     lel.push_back(2.31441);
1725     lel.push_back(3.61436);
1726     lel.push_back(2.222);
1727     lel.push_back(2.523);
1728     lel.push_back(2.12425);
```



```
1729     lel.push_back(2.97292);
1730     lel.push_back(1.505);
1731     lel.push_back(2.49204);
1732     lel.push_back(4.409);
1733     lel.push_back(1.727);
1734     lel.push_back(1.84364);
1735     lel.push_back(2.51404);
1736     lel.push_back(2.41852);
1737     lel.push_back(3.783);
1738     lel.push_back(3.824);
1739     lel.push_back(2.8013);
1740     lel.push_back(3.56988);
1741     lel.push_back(3.62674);
1742     lel.push_back(3.699);
1743     lel.push_back(2.222);
1744     lel.push_back(3.301);
1745     lel.push_back(1.88376);
1746     lel.push_back(2.11011);
1747     lel.push_back(2.68441);
1748     lel.push_back(3.57106);
1749     lel.push_back(3.56232);
1750     lel.push_back(2.215);
1751     lel.push_back(2.854);
1752     lel.push_back(2.52843);
1753     lel.push_back(2.079);
1754     lel.push_back(1.88895);
1755     lel.push_back(2.971);
1756     lel.push_back(4.222);
1757     lel.push_back(3);
1758     lel.push_back(1.767);
1759     lel.push_back(2.98065);
1760     lel.push_back(3.231);
1761     lel.push_back(2.03949);
1762     lel.push_back(3.143);
1763     lel.push_back(3.523);
1764     lel.push_back(2.12454);
1765     lel.push_back(2.84487);
1766     lel.push_back(3.191);
1767     lel.push_back(2.68549);
1768     lel.push_back(3.55522);
1769     lel.push_back(3.56543);
1770     lel.push_back(2.50968);
1771     lel.push_back(2.15757);
1772     lel.push_back(3.57138);
1773     lel.push_back(3.58553);
1774     lel.push_back(3.58937);
1775     lel.push_back(2.49104);
1776     lel.push_back(3.62679);
```



```
1777 lel.push_back(2.6274);
1778 lel.push_back(3.301);
1779 lel.push_back(2.34912);
1780 lel.push_back(2.45505);
1781 lel.push_back(3.6854);
1782 lel.push_back(2.7896);
1783 lel.push_back(1.84383);
1784 lel.push_back(3.61054);
1785 lel.push_back(3.68312);
1786 lel.push_back(4.398);
1787 lel.push_back(4.477);
1788 lel.push_back(2.476);
1789 lel.push_back(2.24013);
1790 lel.push_back(3.83769);
1791 lel.push_back(2.60515);
1792 lel.push_back(3.57226);
1793 lel.push_back(3.71751);
1794 lel.push_back(3.17441);
1795 lel.push_back(2.34875);
1796 lel.push_back(3.56592);
1797 lel.push_back(2.28966);
1798 lel.push_back(3.62346);
1799 lel.push_back(3.57228);
1800 lel.push_back(5);
1801 lel.push_back(2.98125);
1802 lel.push_back(3.56176);
1803 lel.push_back(3.477);
1804 lel.push_back(4.574);
1805 lel.push_back(2.17262);
1806 lel.push_back(2.699);
1807 lel.push_back(3.84865);
1808 lel.push_back(3.56729);
1809 lel.push_back(4.34861);
1810 lel.push_back(3.6053);
1811 lel.push_back(2.09555);
1812 lel.push_back(2.20057);
1813 lel.push_back(2.02633);
1814 lel.push_back(3.17519);
1815 lel.push_back(2.25612);
1816 lel.push_back(4.161);
1817 lel.push_back(2.54775);
1818 lel.push_back(2.33186);
1819 lel.push_back(2.36652);
1820 lel.push_back(3.56235);
1821 lel.push_back(3.398);
1822 lel.push_back(2.26401);
1823 lel.push_back(2.432);
1824 lel.push_back(3.55654);
```



```
1825    lel.push_back(2.875);
1826    lel.push_back(2.64292);
1827    lel.push_back(3.57949);
1828    lel.push_back(2.28965);
1829    lel.push_back(2.34912);
1830    lel.push_back(3.56323);
1831    lel.push_back(3.51175);
1832    lel.push_back(2.10238);
1833    lel.push_back(3.076);
1834    lel.push_back(3.7763);
1835    lel.push_back(3.56727);
1836    lel.push_back(2.67493);
1837    lel.push_back(1.222);
1838    lel.push_back(3.824);
1839    lel.push_back(2.34799);
1840    lel.push_back(2.16998);
1841    lel.push_back(3.60192);
1842    lel.push_back(3.58256);
1843    lel.push_back(2.34875);
1844    lel.push_back(2.38407);
1845    lel.push_back(2.921);
1846    lel.push_back(2.49064);
1847    lel.push_back(3.80905);
1848    lel.push_back(2.49145);
1849    lel.push_back(3);
1850    lel.push_back(2.23218);
1851    lel.push_back(2.16965);
1852    lel.push_back(2.20836);
1853    lel.push_back(3.85935);
1854    lel.push_back(1.84395);
1855    lel.push_back(2.13152);
1856    lel.push_back(3.38517);
1857    lel.push_back(1.85361);
1858    lel.push_back(3.56512);
1859    lel.push_back(3.56849);
1860    lel.push_back(2.63615);
1861    lel.push_back(2.47258);
1862    lel.push_back(3.5412);
1863    lel.push_back(3.222);
1864    lel.push_back(3.57105);
1865    lel.push_back(3.61373);
1866    lel.push_back(3.48295);
1867    lel.push_back(2.523);
1868    lel.push_back(3.56297);
1869    lel.push_back(3.333);
1870    lel.push_back(3.56298);
1871    lel.push_back(3.57418);
1872    lel.push_back(2.41964);
```



```
1873     lel.push_back(2.215);
1874     lel.push_back(2.12457);
1875     lel.push_back(2.954);
1876     lel.push_back(3.56953);
1877     lel.push_back(2.35725);
1878     lel.push_back(2.41926);
1879     lel.push_back(3.5325);
1880     lel.push_back(3.40333);
1881     lel.push_back(3.778);
1882     lel.push_back(2.02633);
1883     lel.push_back(3.63478);
1884     lel.push_back(2.64458);
1885     lel.push_back(3.60217);
1886     lel.push_back(2.77);
1887     lel.push_back(2.64458);
1888     lel.push_back(3.14609);
1889     lel.push_back(3.57239);
1890     lel.push_back(3.56154);
1891     lel.push_back(2.38407);
1892     lel.push_back(2.21646);
1893     lel.push_back(4);
1894     lel.push_back(3.17796);
1895     lel.push_back(3.46707);
1896     lel.push_back(2.78867);
1897     lel.push_back(2.12454);
1898     return lel;
1899 }
1900
1901 -----
1902 total elapsed time: 303.009 sec
1903 =====
```

