LISTATO DI CALCOLO – FASE 3 – SEZ B – COESIONE INTERCETTA

RICERCA SUPERFICIE CRITICA CIRCOLARE

Analisi di stabilità dei pendii con: JANBU (1956)

Lat./Long.	44.416126/9.128522
Normativa	NTC 2008
Numero di strati	4.0
Numero dei conci	25.0
Grado di sicurezza ritenuto accettabile	1.1
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	0.0 m
Ordinata vertice sinistro inferiore yi	80.0 m
Ascissa vertice destro superiore xs	160.0 m
Ordinata vertice destro superiore ys	350.0 m
Passo di ricerca	10.0
Numero di celle lungo x	20.0
Numero di celle lungo y	20.0

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe I
Vita nominale:	50.0 [anni]
Vita di riferimento:	35.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	C
Categoria topografica:	T3

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.27	2.5	0.2
S.L.D.	35.0	0.29	2.52	0.2
S.L.V.	332.0	0.73	2.53	0.28
S.L.C.	682.0	0.96	2.5	0.29

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.486	0.2	0.0099	0.005
S.L.D.	0.522	0.2	0.0106	0.0053
S.L.V.	1.314	0.2	0.0268	0.0134
S.L.C.	1.728	0.2	0.0352	0.0176

Coefficiente azione sismica orizzontale	0.0268
Coefficiente azione sismica verticale	0.013 4

Vertici profilo

N	X	y

	m	m
1	0.0	0.0
2	26.2	17.22
3	29.65	17.44
4	33.37	16.92
5	46.1	17.82
6	57.38	17.82
7	59.14	21.76
8	77.88	24.89
9	79.34	28.89
10	87.43	30.89
11	93.0	30.89
12	94.49	34.89
13	102.3	37.98
14	107.65	37.98
15	109.05	41.99
16	116.97	45.81
17	122.21	45.81
18	123.59	49.81
19	131.26	51.82
20	136.53	51.82
21	137.85	56.02
22	146.05	58.02
23	154.97	58.02
24	156.3	62.15
25	163.54	64.15
26	169.16	64.15
27	170.53	68.15
28	178.28	70.31
29	183.72	70.31
30	185.08	74.31
31	192.8	76.52
32	198.04	76.52
33	199.35	80.52
34	206.52	83.34
35	211.46	83.34
36	212.64	86.34
37	219.78	89.01
38	224.57	89.01
39	225.86	90.82
40	271.64	88.91
41	282.7	88.53
42	289.11	88.6 8

Falda

Nr.	X (m)	y (m)
1	-0.3	-0.52
2	39.1	10.3
3	82.12	14.39
4	121.91	24.44
5	159.28	41.98
6	179.86	58.11
7	202.99	68.81
8	231.62	74.84
9	257.74	77.35
10	289.64	80.6 2

Vertici strato 1

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.22

3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	37.68	12.99
7	64.06	13.96
8	76.83	15.78
9	98.11	17.87
10	110.05	22.38
11	132.06	29.02
12	146.92	36.18
13	155.14	41.22
14	161.51	46.52
15	169.47	50.77
16	178.51	60.13
17	197.55	68.85
18	208.25	71.0
19	228.49	80.0
20	272.76	88.87
21	282.7	88.53
22	289.11	88.6 8

Vertici strato 2

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.27
3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	38.56	12.1
7	64.37	12.92
8	76.19	14.76
9	85.97	15.84
10	98.38	17.08
11	110.84	21.59
12	132.6	28.22
13	147.98	36.18
14	153.82	40.16
15	162.57	45.73
16	169.2	49.18
17	174.21	54.9
18	178.51	59.23
19	197.94	67.72
20	212.1	70.67
21	223.0	75.35
22	230.56	77.31
23	262.24	80.63
24	281.0	81.67
25	289.11	83.6 9

Vertici strato 3

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.22
3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	42.18	8.4
7	65.63	9.78
8	79.0	11.82
9	93.34	13.63
10	132.33	25.3
11	147.96	31.81

12	159.17	38.21
13	167.34	43.58
14	176.99	52.15
15	182.36	55.06
16	192.72	59.7
17	209.83	66.16
18	232.16	72.24
19	275.95	77.07
20	289.11	79.45

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kg/cm²)	cu (kg/cm²)	Fi (°)	G (Kg/m³)	Gs (Kg/m³)	K (Kg/cm³)	Litologia	
1	0.0383		29.60	1837	2063	0.00		
2	0		26.51	1695	1905	0.00		
3	0.3305		30.52	2402	2698	0.00		
4	0.4352		33.31	2402	2698	0.00		

Terra rinforzata

No	X (m)	Y (m)	Stato	Tipologia
1	122.21	45.81	Attivato	terre 8m
2	136.53	51.82	Attivato	terre 8m
3	169.16	64.15	Attivato	terre 4m
4	183.72	70.31	Attivato	terre 4m
5	198.04	76.52	Attivato	terre 4m
6	211.46	83.34	Attivato	terre 4m
7	154.97	58.02	Attivato	terre 4m
8	57.38	17.82	Attivato	terre 4m
9	77.88	24.89	Attivato	terre 4m
10	93	30.89	Attivato	terre 4m
11	107.65	37.98	Attivato	terre 4m

Risultati analisi pendio [NTC 2008: [A2+M2+R2]]

Fs minimo individuato	1.11
Ascissa centro superficie	84.0 m
Ordinata centro superficie	113.75 m
Raggio superficie	86.87 m

Numero di superfici esaminate....(731)

N°	Xo	Yo	Ro	Fs
1	0.0	80.0	72.2	3.17
2	4.0	86.8	78.4	3.14
3	8.0	80.0	72.6	2.92
4	12.0	86.8	79.0	3.17
5	16.0	80.0	73.7	3.28
6	20.0	86.8	80.3	3.23
7	24.0	80.0	67.3	6.09

8	28.0	86.8	81.9	2.91
9	32.0	80.0	75.9	2.91
10	36.0	86.8	81.9	2.75
11	40.0	80.0	67.8	3.38
12	44.0	86.8	73.1	2.45
13	48.0	80.0	67.8	2.36
14	52.0	86.8	73.1	1.62
15	56.0	80.0	67.8	1.76
16	60.0	86.8	73.1	1.24
17	64.0	80.0	59.8	1.32
18	68.0	86.8	64.2	1.22
19	72.0	80.0	59.8	1.19
20	76.0	86.8	64.2	1.22
21	80.0	80.0	59.8	1.17
22	84.0	86.8	64.2	1.21
23	88.0	80.0	59.6	1.22
24	92.0	86.8	55.4	1.14
25	96.0	80.0	59.4	1.17
26	100.0	86.8	54.6	1.23
27	104.0	80.0	51.7	1.17
28	108.0	86.8	55.4	1.28
29	112.0	80.0	42.3	1.21
30	116.0	86.8	46.4	1.29
31	120.0	80.0	50.8	1.37
32	124.0	86.8	54.7	1.34
33	128.0	80.0	51.7	1.44
34	132.0	86.8	45.4	1.44
35	136.0	80.0	42.9	1.44
36	140.0	86.8	46.2	1.41
37	144.0	80.0	34.4	1.50
38	148.0	86.8	36.6	1.48
39	152.0	80.0	35.6	1.65
40	156.0	86.8	28.1	1.32
41	160.0	80.0	26.6	1.53
42	0.0	93.5	84.6	3.58
43	4.0	100.3	90.3	3.91
44	20.0	100.3	92.1	3.52
45	24.0	93.5	87.3	3.23
46	28.0	100.3	93.8	2.85
47	32.0	93.5	78.7	12.75
48	36.0	100.3	94.0	2.50
49	40.0	93.5	88.1	2.57
50	44.0	100.3	83.8	1.93
51	48.0	93.5	78.6	1.76
52	52.0	100.3	83.8	1.44
53	56.0	93.5	78.6	1.30
54	60.0	100.3	83.9	1.30
55	64.0	93.5	78.5	1.27
56	68.0	100.3	84.0	1.21
57	72.0	93.5	68.9	1.13
58	76.0	100.3	84.0	1.17
59	80.0	93.5	68.8	1.11
60	84.0	100.3	74.0	1.21
61	88.0	93.5	68.8	1.16
62	92.0	100.3	73.6	1.15
63	96.0	93.5	68.7	1.20
64	100.0	100.3	74.2	1.20
65	104.0	93.5	58.9	1.17
66	108.0	100.3	73.7	1.25
67	112.0	93.5	58.9	1.24
68	116.0	100.3	63.6	1.27
69	120.0	93.5	58.7	1.34
70	124.0	100.3	64.5	1.30

71	128.0	93.5	58.6	1.32
72	132.0	100.3	53.4	1.45
73	136.0	93.5	48.8	1.43
74	140.0	100.3	52.6	1.41
75	144.0	93.5	48.9	1.51
76	148.0	100.3	53.4	1.40
77	152.0	93.5	39.2	1.43
78	156.0	100.3	42.8	1.27
79	160.0	93.5	39.0	1.27
80	8.0	107.0	97.3	3.79
81	24.0	107.0	99.5	3.06
82	28.0	113.8	96.6	239.08
83	32.0	107.0	90.4	46.62
84	36.0	113.8	107.5	2.21
85	40.0	107.0	90.5	23.83
86	44.0	113.8	97.3	1.64
87	48.0	107.0	90.6	1.41
88	52.0	113.8	97.3	1.24
89	56.0	107.0	90.6	1.35
90	60.0	113.8	97.4	1.17
91	64.0	107.0	90.7	1.15
92	68.0	113.8	97.5	1.16
93	72.0	107.0	90.8	1.15
94	76.0	113.8	97.5	1.20
95	80.0	107.0	90.8	1.13
96	84.0	113.8	86.9	1.11
97	88.0	107.0	80.2	1.13
98	92.0	113.8	84.7	1.19
99	96.0	107.0	78.0	1.18
100	100.0	113.8	82.5	1.18
101	104.0	107.0	78.8	1.23
102	108.0	113.8	83.1	1.22
103	112.0	107.0	78.9	1.22
104	116.0	113.8	84.0	1.32
105	120.0	107.0	67.1	1.34
106	124.0	113.8	70.7	1.29
107	128.0	107.0	68.0	1.36
108	132.0	113.8	71.4	1.28
109	136.0	107.0	57.5	1.35
110	140.0	113.8	61.5	1.37
111	144.0	107.0	55.8	1.35
112	148.0	113.8	60.0	1.30
113	152.0	107.0	56.4	1.49
114	156.0	113.8	58.9	1.21
115	160.0	107.0	45.3	1.36
116	16.0	120.5	111.5	3.57
117	20.0	127.3	118.7	3.02
118	28.0	127.3	120.1	2.35
119	32.0	120.5	114.2	2.22
120	36.0	127.3	121.0	2.07
121	40.0	120.5	104.0	25.30
122	44.0	127.3	121.0	1.95
123	48.0	120.5	104.0	1.28
124	52.0	127.3	110.8	1.26
125	56.0	120.5	104.1	1.22
126	60.0	127.3	110.9	1.20
127	64.0	120.5	104.2	1.18
128	68.0	127.3	111.0	1.16
129	72.0	120.5	94.1	1.17
130	76.0	127.3	110.5	1.16
131	80.0	120.5	93.5	1.14
132	84.0	127.3	98.0	1.13
133	88.0	120.5	91.3	1.14

134	92.0	127.3	95.8	1.17
135	96.0	120.5	89.1	1.17
136	100.0	127.3	93.6	1.21
137	104.0	120.5	87.4	1.24
138	108.0	127.3	92.4	1.22
139	112.0	120.5	87.4	1.24
140	116.0	127.3	92.1	1.23
141	120.0	120.5	77.1	1.31
142	124.0	127.3	93.3	1.34
143	128.0	120.5	75.3	1.35
144	132.0	127.3	79.9	1.33
145	136.0	120.5	74.9	1.31
146	140.0	127.3	79.2	1.34
147	144.0	120.5	76.2	1.40
148	148.0	127.3	79.6	1.33
149	152.0	120.5	64.2	1.33
150	156.0	127.3	67.6	1.24
151	160.0	120.5	63.1	1.12
152	0.0	134.0	124.0	4.28
153	20.0	140.8	132.1	2.76
154	28.0	140.8	133.3	2.06
155	32.0	134.0	127.5	2.13
156	36.0	140.8	124.2	31.21
157	40.0	134.0	117.5	1.76
158	44.0	140.8	134.5	1.79
159	48.0	134.0	117.5	1.32
160	52.0	140.8	124.3	1.24
161	56.0	134.0	117.6	1.21
162	60.0	140.8	124.4	1.15
163	64.0	134.0	117.7	1.16
164	68.0	140.8	123.9	1.15
165	72.0	134.0	117.2	1.16
166	76.0	140.8	111.3	1.18
167	80.0	134.0	104.6	1.12
168	84.0	140.8	121.0	1.16
169	88.0	134.0	114.3	1.12
170	92.0	140.8	106.9	1.20
171	96.0	134.0	100.2	1.20
172	100.0	140.8	104.7	1.23
173	104.0	134.0	98.0	1.21
174	108.0	140.8	102.5	1.23
175	112.0	134.0	97.3	1.24
176	116.0	140.8	102.3	1.24
177	120.0	134.0	97.2	1.27
178	124.0	140.8	102.4	1.28
179	128.0	134.0	84.1	1.36
180	132.0	140.8	101.9	1.38
181	136.0	134.0	84.5	1.29
182	140.0	140.8	88.2	1.28
183	144.0	134.0	83.9	1.34
184	148.0	140.8	88.5	1.34
185	152.0	134.0	83.0	1.31
186	156.0	140.8	86.2	1.28
187	160.0	134.0	69.5	1.42
188	0.0	147.5	137.5	4.36
189	4.0	154.3	144.3	4.23
190	8.0	147.5	137.7	4.16
191	16.0	147.5	138.3	2.97
192	20.0	154.3	145.5	2.33
193	28.0	154.3	136.4	5.54
194	32.0	147.5	130.5	1493.51
195	36.0	154.3	137.7	30.40
196	40.0	147.5	131.0	1.69

197	44.0	154.3	137.8	1.29
198	48.0	147.5	131.0	1.28
199	52.0	154.3	137.8	1.16
200	56.0	147.5	131.1	1.15
201	60.0	154.3	137.3	1.15
202	64.0	147.5	130.6	1.15
203	68.0	154.3	135.8	1.18
204	72.0	147.5	129.1	1.18
205	76.0	154.3	134.3	1.17
206	80.0	147.5	115.7	1.16
207	84.0	154.3	132.9	1.17
208	88.0	147.5	126.2	1.14
209	92.0	154.3	118.0	1.21
210	96.0	147.5	124.7	1.21
211	100.0	154.3	115.8	1.24
212	104.0	147.5	109.1	1.22
213	108.0	154.3	113.6	1.30
214	112.0	147.5	107.0	1.27
215	116.0	154.3	111.4	1.25
216	120.0	147.5	106.8	1.30
217	124.0	154.3	111.1	1.30
218	128.0	147.5	107.6	1.34
219	132.0	154.3	112.7	1.33
220	136.0	147.5	106.2	1.35
221	140.0	154.3	111.1	1.39
222	144.0	147.5	91.6	1.22
223	148.0	154.3	93.5	1.33
224	152.0	147.5	91.5	1.16
225	156.0	154.3	90.4	1.36
226	160.0	147.5	86.2	1.17
227	12.0	167.8	158.2	2.93
228	16.0	161.0	151.8	2.61
229	20.0	167.8	158.9	2.02
230	28.0	167.8	159.9	1.81
231	32.0	161.0	153.9	1.81
232	36.0	167.8	161.3	1.74
233	40.0	161.0	144.5	1.43
234	44.0	167.8	151.3	1.28
235	48.0	161.0	144.5	1.19
236	52.0	167.8	150.6	1.17
237	56.0	161.0	143.9	1.17
238	60.0	167.8	149.2	1.15
239	64.0	161.0	142.5	1.16
240	68.0	167.8	147.7	1.15
241	72.0	161.0	141.0	1.16
242	76.0	167.8	146.2	1.17
243	80.0	161.0	139.5	1.17
244	84.0	167.8	144.8	1.17
245	88.0	161.0	138.1	1.23
246	92.0	167.8	143.3	1.22
247	96.0	161.0	136.6	1.24
248	100.0	167.8	126.9	1.26
249	104.0	161.0	120.2	1.27
250	108.0	167.8	124.7	1.28
251	112.0	161.0	118.1	1.25
252	116.0	167.8	122.5	1.29
253	120.0	161.0	115.9	1.27
254	124.0	167.8	120.3	1.23
255	128.0	161.0	115.6	1.30
256	132.0	167.8	120.8	1.27
257	136.0	161.0	117.0	1.37
258	140.0	167.8	119.3	1.29
259	144.0	161.0	114.2	1.40

260	148.0	167.8	114.4	1.34
261	152.0	161.0	108.9	1.30
262	156.0	167.8	109.2	1.23
263	160.0	161.0	104.1	1.32
264	0.0	174.5	164.5	4.41
265	4.0	181.3	171.3	4.47
266	8.0	174.5	164.7	3.66
267	12.0	181.3	171.6	2.49
268	16.0	174.5	165.2	2.17
269	28.0	181.3	173.3	1.67
270	32.0	174.5	157.0	1.45
271	36.0	181.3	164.3	20.00
272	40.0	174.5	158.0	1.36
273	44.0	181.3	174.6	1.67
274	48.0	174.5	157.3	1.15
275	52.0	181.3	162.5	1.15
276	56.0	174.5	155.8	1.14
277	60.0	181.3	161.1	1.17
278	64.0	174.5	154.4	1.16
279	68.0	181.3	159.6	1.15
280	72.0	174.5	152.9	1.17
281	76.0	181.3	158.1	1.15
282	80.0	174.5	151.5	1.15
283	84.0	181.3	156.7	1.17
284	88.0	174.5	150.0	1.25
285	92.0	181.3	155.2	1.27
286	96.0	174.5	148.5	1.26
287	100.0	181.3	153.7	1.28
288	104.0	174.5	147.1	1.32
289	108.0	181.3	152.3	1.34
290	112.0	174.5	129.2	1.29
291	116.0	181.3	133.6	1.30
292	120.0	174.5	127.0	1.29
293	124.0	181.3	131.4	1.27
294	128.0	174.5	125.1	1.22
295	132.0	181.3	128.1	1.21
296	136.0	174.5	123.9	1.30
297	140.0	181.3	124.3	1.18
298	144.0	174.5	118.7	1.14
299	148.0	181.3	135.2	1.62
300	152.0	174.5	114.2	1.18
301	156.0	181.3	130.0	1.65
302	160.0	174.5	109.8	1.21
303	0.0	188.0	178.0	4.44
304	4.0	194.8	184.8	4.52
305	12.0	194.8	185.1	2.03
306	16.0	188.0	178.6	2.09
307	24.0	188.0	169.4	20.00
308	28.0	194.8	186.6	1.62
309	32.0	188.0	170.4	1.41
310	36.0	194.8	176.8	1.25
311	40.0	188.0	170.7	22.01
312	44.0	194.8	175.9	1.14
313	48.0	188.0	169.2	1.16
314	52.0	194.8	174.4	1.14
315	56.0	188.0	167.7	1.15
316	60.0	194.8	173.0	1.14
317	64.0	188.0	166.3	1.14
318	68.0	194.8	171.5	1.15
319	72.0	188.0	164.8	1.15
320	76.0	194.8	170.0	1.15
321	80.0	188.0	163.4	1.19
322	84.0	194.8	168.6	1.20

323	88.0	188.0	161.9	1.21
324	92.0	194.8	167.1	1.24
325	96.0	188.0	160.4	1.28
326	100.0	194.8	165.6	1.29
327	104.0	188.0	159.0	1.31
328	108.0	194.8	164.2	1.36
329	112.0	188.0	140.3	1.32
330	116.0	194.8	144.7	1.38
331	120.0	188.0	138.1	1.29
332	124.0	194.8	140.8	1.40
333	128.0	188.0	134.0	1.34
334	132.0	194.8	152.5	1.47
335	136.0	188.0	146.3	1.51
336	140.0	194.8	146.4	1.50
337	144.0	188.0	124.9	1.54
338	148.0	194.8	142.4	1.48
339	152.0	188.0	135.5	1.55
340	156.0	194.8	136.5	1.41
341	160.0	188.0	130.3	1.47
342	0.0	201.5	191.5	4.59
343	8.0	201.5	191.6	2.38
344	12.0	208.3	198.6	1.90
345	20.0	208.3	199.2	1.63
346	24.0	201.5	182.8	2.93
347	28.0	208.3	199.6	1.54
348	32.0	201.5	182.8	1.55
349	36.0	208.3	188.5	1.24
350	40.0	201.5	182.5	1.14
351	44.0	208.3	187.8	1.16
352	48.0	201.5	181.1	1.15
353	52.0	208.3	186.3	1.16
354	56.0	201.5	179.6	1.15
355	60.0	208.3	184.9	1.14
356	64.0	201.5	178.2	1.16
357	68.0	208.3	183.4	1.14
358	72.0	201.5	176.7	1.15
359	76.0	208.3	181.9	1.15
360	80.0	201.5	175.3	1.19
361	84.0	208.3	180.5	1.21
362	88.0	201.5	173.8	1.21
363	92.0	208.3	179.0	1.25
364	96.0	201.5	172.3	1.26
365	100.0	208.3	177.6	1.29
366	104.0	201.5	170.9	1.32
367	108.0	208.3	176.1	1.38
368	112.0	201.5	169.4	1.40
369	116.0	208.3	173.1	1.45
370	120.0	201.5	166.2	1.45
371	124.0	208.3	166.5	1.47
372	128.0	201.5	159.4	1.45
373	132.0	208.3	159.9	1.30
374	136.0	201.5	152.8	1.32
375	140.0	208.3	153.4	1.35
376	144.0	201.5	147.4	1.35
377	148.0	208.3	148.6	1.24
378	152.0	201.5	142.9	1.33
379	156.0	208.3	143.7	1.29
380	160.0	201.5	137.8	1.34
381	0.0	215.0	205.0	4.61
382	4.0	221.8	211.8	2.20
383	16.0	215.0	205.6	1.69
384	20.0	221.8	212.1	1.54
385	24.0	215.0	205.8	1.54

386	28.0	221.8	212.2	1.51
387	32.0	215.0	194.6	1.51
388	36.0	221.8	200.3	1.22
389	40.0	215.0	194.2	1.15
390	44.0	221.8	199.7	1.14
391	48.0	215.0	193.0	1.15
392	52.0	221.8	198.2	1.14
393	56.0	215.0	191.5	1.14
394	60.0	221.8	196.8	1.17
395	64.0	215.0	190.1	1.15
396	68.0	221.8	195.3	1.17
397	72.0	215.0	188.6	1.16
398	76.0	221.8	193.8	1.21
399	80.0	215.0	187.2	1.21
400	84.0	221.8	192.4	1.17
401	88.0	215.0	185.7	1.21
402	92.0	221.8	190.9	1.26
403	96.0	215.0	184.2	1.30
404	100.0	221.8	189.5	1.34
405	104.0	215.0	182.8	1.35
406	108.0	221.8	187.2	1.40
407	112.0	215.0	180.1	1.39
408	116.0	221.8	180.6	1.36
409	120.0	215.0	173.5	1.40
410	124.0	221.8	174.1	1.32
411	128.0	215.0	167.0	1.31
412	132.0	221.8	167.7	1.22
413	136.0	215.0	160.5	1.28
414	140.0	221.8	161.4	1.23
415	144.0	215.0	154.2	1.24
416	148.0	221.8	174.6	1.81
417	152.0	215.0	150.0	1.30
418	156.0	221.8	151.8	1.41
419	160.0	215.0	144.8	1.38
420	0.0	228.5	218.5	3.06
421	4.0	235.3	225.3	1.98
422	8.0	228.5	218.6	1.94
423	16.0	228.5	218.5	1.53
424	20.0	235.3	213.4	1.58
425	24.0	228.5	218.4	1.48
426	28.0	235.3	224.8	1.41
427	32.0	228.5	206.4	4.84
428	36.0	235.3	225.0	1.39
429	40.0	228.5	205.9	1.19
430	44.0	235.3	211.6	1.16
431	48.0	228.5	204.9	1.17
432	52.0	235.3	210.1	1.16
433	56.0	228.5	203.4	1.17
434	60.0	235.3	208.7	1.15
435	64.0	228.5	202.0	1.15
436	68.0	235.3	207.2	1.15
437	72.0	228.5	200.5	1.13
438	76.0	235.3	205.7	1.21
439	80.0	228.5	199.1	1.21
440	84.0	235.3	204.3	1.16
441	88.0	228.5	197.6	1.21
442	92.0	235.3	202.8	1.25
443	96.0	228.5	196.1	1.30
444	100.0	235.3	201.4	1.36
445	104.0	228.5	194.3	1.39
446	108.0	235.3	194.9	1.28
447	112.0	228.5	187.7	1.35
448	116.0	235.3	188.5	1.31

449	120.0	228.5	181.3	1.31
450	124.0	235.3	182.2	1.23
451	128.0	228.5	174.9	1.21
452	132.0	235.3	176.0	1.23
453	136.0	228.5	168.7	1.24
454	140.0	235.3	169.9	4.20
455	144.0	228.5	162.6	4.10
456	148.0	235.3	183.7	1.83
457	152.0	228.5	156.7	2.56
458	156.0	235.3	178.3	1.76
459	160.0	228.5	153.5	2.32
460	0.0	242.0	232.0	2.40
461	4.0	248.8	238.2	1.79
462	8.0	242.0	231.6	1.72
463	12.0	248.8	237.7	1.44
464	16.0	242.0	231.2	1.49
465	20.0	248.8	225.3	2.35
466	24.0	242.0	218.9	2.90
467	28.0	248.8	237.4	1.37
468	32.0	242.0	218.2	1.83
469	36.0	248.8	223.8	1.30
470	40.0	242.0	217.7	1.23
471	44.0	248.8	223.4	1.21
472	48.0	242.0	216.8	1.17
473	52.0	248.8	222.0	1.20
474	56.0	242.0	215.3	1.17
475	60.0	248.8	220.6	1.17
476	64.0	242.0	213.9	1.17
477	68.0	248.8	219.1	12.15
478	72.0	242.0	212.4	1.17
479	76.0	248.8	217.6	1.21
480	80.0	242.0	211.0	1.21
481	84.0	248.8	216.2	1.21
482	88.0	242.0	209.5	1.22
483	92.0	248.8	214.7	1.30
484	96.0	242.0	208.0	1.36
485	100.0	248.8	209.3	1.24
486	104.0	242.0	202.1	1.26
487	108.0	248.8	203.0	1.30
488	112.0	242.0	195.7	1.32
489	116.0	248.8	196.8	1.23
490	120.0	242.0	189.5	1.24
491	124.0	248.8	190.6	1.25
492	128.0	242.0	183.3	1.25
493	132.0	248.8	204.5	1.73
494	136.0	242.0	177.3	4.60
495	140.0	248.8	198.7	1.76
496	144.0	242.0	171.3	1.94
497	152.0	242.0	185.6	1.72
498	156.0	248.8	187.7	1.71
499	4.0	262.3	250.9	1.63
500	8.0	255.5	244.3	1.51
501	24.0	255.5	230.8	2.30
502	28.0	262.3	250.0	1.31
503	32.0	255.5	243.8	1.32
504	36.0	262.3	235.6	1.54
505	40.0	255.5	229.5	1.23
506	44.0	262.3	235.1	1.22
507	48.0	255.5	228.7	5.20
508	52.0	262.3	233.9	1.18
509	56.0	255.5	243.4	1.49
510	60.0	262.3	232.5	1.17
511	64.0	255.5	225.8	1.16

512	68.0	262.3	231.0	1.15
513	72.0	255.5	224.3	1.16
514	76.0	262.3	229.5	1.21
515	80.0	255.5	222.9	1.21
516	84.0	262.3	228.1	1.23
517	88.0	255.5	221.4	1.19
518	92.0	262.3	223.7	1.26
519	96.0	255.5	216.5	1.26
520	100.0	262.3	217.5	13.09
521	108.0	262.3	211.3	1.23
522	112.0	255.5	204.0	1.23
523	116.0	262.3	205.2	1.29
524	120.0	255.5	197.9	1.26
525	124.0	262.3	199.3	2.28
526	128.0	255.5	211.9	1.70
527	132.0	262.3	213.8	1.71
528	136.0	255.5	206.2	1.75
529	140.0	262.3	208.2	1.61
530	144.0	255.5	200.7	1.63
531	0.0	269.0	257.6	5.74
532	8.0	269.0	257.0	1.45
533	16.0	269.0	256.6	1.39
534	20.0	275.8	262.8	1.32
535	24.0	269.0	256.4	1.30
536	28.0	275.8	248.1	1.67
537	32.0	269.0	256.4	1.23
538	36.0	275.8	262.8	1.24
539	40.0	269.0	256.6	1.22
540	44.0	275.8	246.9	1.25
541	48.0	269.0	240.6	1.20
542	52.0	275.8	245.8	1.20
543	56.0	269.0	239.1	1.19
544	60.0	275.8	244.4	1.18
545	64.0	269.0	237.7	1.18
546	68.0	275.8	242.9	1.15
547	72.0	269.0	236.2	1.18
548	76.0	275.8	241.4	1.21
549	80.0	269.0	234.7	1.22
550	84.0	275.8	238.1	1.26
551	88.0	269.0	230.9	1.28
552	92.0	275.8	231.9	1.23
553	96.0	269.0	224.7	9.13
554	100.0	275.8	225.8	1.24
555	104.0	269.0	218.6	1.24
556	108.0	275.8	240.1	1.59
557	112.0	269.0	212.5	2.56
558	116.0	275.8	213.9	9.49
559	120.0	269.0	206.6	3.77
560	128.0	269.0	221.3	1.68
561	132.0	275.8	223.4	1.55
562	136.0	269.0	215.8	1.56
563	140.0	275.8	218.1	28.50
564	148.0	275.8	212.9	1.43
565	156.0	275.8	207.9	1.59
566	160.0	269.0	200.3	1.65
567	0.0	282.5	270.3	6.56
568	8.0	282.5	269.7	1.43
569	12.0	289.3	275.8	1.34
570	20.0	289.3	275.4	1.27
571	28.0	289.3	260.0	2.47
572	32.0	282.5	269.0	1.26
573	36.0	289.3	259.2	2.67
574	40.0	282.5	269.2	1.27

575	44.0	289.3	258.6	4.22
576	48.0	282.5	252.5	1.24
577	52.0	289.3	257.6	1.22
578	56.0	282.5	251.0	1.20
579	60.0	289.3	256.1	1.21
580	64.0	282.5	249.5	1.17
581	68.0	289.3	254.6	1.16
582	72.0	282.5	248.0	1.16
583	76.0	289.3	252.6	1.22
584	80.0	282.5	245.4	1.25
585	84.0	289.3	246.5	1.24
586	88.0	282.5	239.2	1.23
587	92.0	289.3	240.4	1.27
588	96.0	282.5	233.1	1.24
589	100.0	289.3	255.1	1.56
590	104.0	282.5	227.2	2.67
591	108.0	289.3	249.5	1.60
592	112.0	282.5	241.9	1.61
593	136.0	282.5	225.7	1.62
594	140.0	289.3	228.2	1.38
595	144.0	282.5	220.5	1.40
596	148.0	289.3	223.2	1.55
597	156.0	289.3	218.4	1.66
598	160.0	282.5	210.7	1.73
599	4.0	302.8	289.0	8.98
600	8.0	296.0	282.4	8.24
601	20.0	302.8	288.0	1.25
602	24.0	296.0	281.6	1.24
603	28.0	302.8	287.9	1.23
604	32.0	296.0	281.6	1.24
605	36.0	302.8	287.9	1.23
606	40.0	296.0	264.7	1.90
607	44.0	302.8	288.0	1.33
608	48.0	296.0	282.0	1.39
609	52.0	302.8	269.3	1.26
610	56.0	296.0	281.4	1.43
611	60.0	302.8	267.8	1.20
612	64.0	296.0	280.6	1.49
613	68.0	302.8	266.3	1.18
614	72.0	296.0	259.7	1.16
615	76.0	302.8	281.6	1.49
616	80.0	296.0	253.8	1.24
617	84.0	302.8	255.1	1.38
618	88.0	296.0	247.8	1.32
619	92.0	302.8	270.1	1.55
620	96.0	296.0	262.6	1.55
621	104.0	296.0	257.0	1.56
622	108.0	302.8	259.1	1.61
623	112.0	296.0	251.5	1.60
624	116.0	302.8	253.7	1.49
625	132.0	302.8	243.4	1.33
626	140.0	302.8	238.5	1.52
627	144.0	296.0	230.8	1.53
628	148.0	302.8	233.7	1.62
629	152.0	296.0	226.0	1.65
630	156.0	302.8	229.1	1.70
631	160.0	296.0	221.4	1.83
632	0.0	309.5	295.6	10.24
633	4.0	316.3	301.6	13.03
634	8.0	309.5	295.0	10.77
635	16.0	309.5	294.5	12.04
636	20.0	316.3	300.6	15.22
637	24.0	309.5	294.2	1.21

638	28.0	316.3	300.4	1.22
639	32.0	309.5	294.1	1.21
640	40.0	309.5	276.3	3.98
641	44.0	316.3	300.5	1.33
642	48.0	309.5	275.7	1.37
643	52.0	316.3	281.0	1.32
644	56.0	309.5	274.4	1.22
645	60.0	316.3	279.5	1.20
646	64.0	309.5	272.9	1.18
647	68.0	316.3	275.7	4.39
648	72.0	309.5	289.0	1.48
649	76.0	316.3	290.8	1.48
650	80.0	309.5	262.4	11.76
651	84.0	316.3	285.1	1.51
652	88.0	309.5	277.6	1.54
653	92.0	316.3	279.6	1.52
654	96.0	309.5	272.1	1.54
655	104.0	309.5	266.6	1.60
656	108.0	316.3	268.9	1.49
657	112.0	309.5	261.3	1.49
658	116.0	316.3	263.7	1.56
659	124.0	316.3	258.7	1.33
660	136.0	309.5	246.1	1.50
661	4.0	329.8	314.2	30.27
662	8.0	323.0	307.6	19.85
663	12.0	329.8	313.6	41.55
664	16.0	323.0	307.1	20.10
665	20.0	329.8	313.2	43.17
666	24.0	323.0	306.8	22.51
667	28.0	329.8	313.0	39.49
668	32.0	323.0	306.7	1.21
669	36.0	329.8	312.9	1.28
670	40.0	323.0	306.7	1.26
671	44.0	329.8	313.0	1.34
672	48.0	323.0	287.3	1.65
673	52.0	329.8	292.8	1.44
674	56.0	323.0	286.2	1.30
675	60.0	329.8	311.5	1.47
676	64.0	323.0	304.0	1.48
677	68.0	329.8	305.8	1.48
678	72.0	323.0	298.3	1.49
679	76.0	329.8	300.2	1.48
680	80.0	323.0	271.3	20.00
681	84.0	329.8	294.7	1.50
682	96.0	323.0	281.8	1.55
683	104.0	323.0	276.5	1.47
684	112.0	323.0	271.4	1.45
685	116.0	329.8	274.0	7.87
686	132.0	329.8	264.3	4.61
687	136.0	323.0	256.7	6.45
688	140.0	329.8	259.7	3.39
689	144.0	323.0	252.1	4.25
690	148.0	329.8	255.3	1.92
691	152.0	323.0	247.6	1.98
692	156.0	329.8	251.0	2.91
693	12.0	343.3	326.2	1.16
694	16.0	336.5	319.7	104.94
695	20.0	343.3	325.8	1.14
696	32.0	336.5	300.4	2.69
697	36.0	343.3	325.5	1.28
698	40.0	336.5	319.2	1.32
699	44.0	343.3	305.0	20.00
700	48.0	336.5	319.4	1.38

701	52.0	343.3	325.8	1.43
702	56.0	336.5	297.7	4.44
703	60.0	343.3	320.8	1.44
704	64.0	336.5	313.3	1.47
705	68.0	343.3	315.3	1.46
706	72.0	336.5	307.8	1.48
707	76.0	343.3	309.9	1.48
708	80.0	336.5	302.3	1.49
709	88.0	336.5	297.0	1.53
710	92.0	343.3	299.4	1.46
711	96.0	336.5	291.7	16.49
712	100.0	343.3	294.3	1.44
713	104.0	336.5	286.6	1.44
714	120.0	336.5	276.7	4.70
715	124.0	343.3	279.7	1.50
716	128.0	336.5	272.0	1.52
717	132.0	343.3	275.1	1.67
718	136.0	336.5	267.4	1.64
719	140.0	343.3	270.6	1.86
720	148.0	343.3	266.3	2.55
721	16.0	350.0	332.3	1.14
722	24.0	350.0	331.9	1.20
723	40.0	350.0	331.8	1.33
724	48.0	350.0	310.5	20.00
725	56.0	350.0	328.4	1.44
726	64.0	350.0	322.9	1.46
727	80.0	350.0	312.2	1.49
728	104.0	350.0	296.9	1.35
729	112.0	350.0	292.1	1.41
730	120.0	350.0	287.3	1.51
731	128.0	350.0	282.7	1.64

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