m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	4^1	4	4.000	0.0000
1	3^1	3	3.000	0.0000
2	2^2	4	2.000	0.0000
3	$1^2\,2^1$	4	1.333	0.6667
4	1^2	2	1.000	1.0000
5	1^1	1	1.000	1.0000
6	1^1	1	1.000	1.0000
Total $n=4$	$1^6\,2^3\,3^1\,4^1$	19	1.727	0.5455

Number of components of graphs in $\mathcal{G}(4)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	5^1	5	5.000	0.0000
1	4^1	4	4.000	0.0000
2	3^2	6	3.000	0.0000
3	$2^3\,3^1$	9	2.250	0.0000
4	$1^3\,2^3$	9	1.500	0.5000
5	$1^5\,2^1$	7	1.167	0.8333
6	$1^5\,2^1$	7	1.167	0.8333
7	1^4	4	1.000	1.0000
8	1^2	2	1.000	1.0000
9	1^1	1	1.000	1.0000
10	1^1	1	1.000	1.0000
Total $n=5$	$1^{21}\,2^8\,3^3\,4^1\,5^1$	55	1.618	0.6176

Number of components of graphs in $\mathcal{G}(5)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	6^1	6	6.000	0.0000
1	5^1	5	5.000	0.0000
2	4^2	8	4.000	0.0000
3	$3^4\,4^1$	16	3.200	0.0000
4	$2^6\,3^3$	21	2.333	0.0000
5	$1^6\,2^8\,3^1$	25	1.667	0.4000
6	$1^{13}\,2^7\,3^1$	30	1.429	0.6190
7	$1^{19}\,2^5$	29	1.208	0.7917
8	$1^{22}\,2^2$	26	1.083	0.9167
9	$1^{20}\,2^1$	22	1.048	0.9524
10	$1^{14}\,2^1$	16	1.067	0.9333
11	1^9	9	1.000	1.0000
12	1^5	5	1.000	1.0000
13	1^2	2	1.000	1.0000
14	1^1	1	1.000	1.0000
15	1^1	1	1.000	1.0000
Total $n=6$	$1^{112}\,2^{30}\,3^9\,4^3\,5^1\,6^1$	222	1.423	0.7179

Number of components of graphs in $\mathcal{G}(6)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	7^1	7	7.000	0.0000
1	6^1	6	6.000	0.0000
2	5^2	10	5.000	0.0000
3	$4^4\,5^1$	21	4.200	0.0000
4	$3^7\,4^3$	33	3.300	0.0000
5	$2^{11}\,3^9\,4^1$	53	2.524	0.0000
6	$1^{11}\,2^{22}\,3^7\,4^1$	80	1.951	0.2683
7	$1^{33}\,2^{27}\,3^5$	102	1.569	0.5077
8	$1^{67}\,2^{28}\,3^2$	129	1.330	0.6907
9	$1^{107}\,2^{23}\,3^1$	156	1.191	0.8168
10	$1^{132}\,2^{15}\,3^1$	165	1.115	0.8919
11	$1^{138}\,2^{10}$	158	1.068	0.9324
12	$1^{126}\,2^5$	136	1.038	0.9618
13	$1^{95}\,2^2$	99	1.021	0.9794
14	$1^{64}\,2^1$	66	1.015	0.9846
15	$1^{40}\,2^1$	42	1.024	0.9756
16	1^{21}	21	1.000	1.0000
17	1^{10}	10	1.000	1.0000
18	1^5	5	1.000	1.0000
19	1^2	2	1.000	1.0000
20	1^1	1	1.000	1.0000
21	1^1	1	1.000	1.0000
Total $n=7$	$1^{853}\,2^{145}\,3^{32}\,4^9\,5^3\,6^1\,7^1$	1303	1.248	0.8170

Number of components of graphs in $\mathcal{G}(7)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	8^1	8	8.000	0.0000
1	7^1	7	7.000	0.0000
2	6^2	12	6.000	0.0000
3	$5^4\,6^1$	26	5.200	0.0000
4	$4^8\,5^3$	47	4.273	0.0000
5	$3^{14}\,4^9\,5^1$	83	3.458	0.0000
6	$2^{23}\,3^{25}\,4^7\,5^1$	154	2.750	0.0000
7	$1^{23}\,2^{58}\,3^{29}\,4^5$	246	2.139	0.2000
8	$1^{89}\,2^{101}\,3^{29}\,4^2$	386	1.747	0.4027
9	$1^{236}\,2^{142}\,3^{23}\,4^1$	593	1.475	0.5871
10	$1^{486}\,2^{161}\,3^{15}\,4^1$	857	1.293	0.7330
11	$1^{814}\,2^{156}\,3^{10}$	1156	1.180	0.8306
12	$1^{1169}\,2^{138}\,3^5$	1460	1.113	0.8910
13	$1^{1454}\,2^{101}\,3^2$	1662	1.067	0.9338
14	$1^{1579}\,2^{66}\,3^1$	1714	1.041	0.9593
15	$1^{1515}\,2^{41}\,3^1$	1600	1.028	0.9730
16	$1^{1290}\,2^{22}$	1334	1.017	0.9832
17	$1^{970}\,2^{10}$	990	1.010	0.9898
18	$1^{658}\,2^5$	668	1.008	0.9925
19	$1^{400}\,2^2$	404	1.005	0.9950
20	$1^{220}\,2^1$	222	1.005	0.9955
21	$1^{114}\,2^1$	116	1.009	0.9913
22	1^{56}	56	1.000	1.0000
23	1^{24}	24	1.000	1.0000
24	1^{11}	11	1.000	1.0000
25	1^5	5	1.000	1.0000
26	1^2	2	1.000	1.0000
27	1^1	1	1.000	1.0000
28	1^1	1	1.000	1.0000
Total $n=8$	$1^{11117}\,2^{1028}\,3^{154}\,4^{33}\,5^9\,6^3\,7^1\,8^1$	13845	1.121	0.9005

Number of components of graphs in $\mathcal{G}(8)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	9^1	9	9.000	0.0000
1	8^1	8	8.000	0.0000
2	7^2	14	7.000	0.0000
3	$6^4\,7^1$	31	6.200	0.0000
4	$5^8\,6^3$	58	5.273	0.0000
5	$4^{15}\,5^9\,6^1$	111	4.440	0.0000
6	$3^{29}\,4^{26}\,5^7\,6^1$	232	3.683	0.0000
7	$2^{46}\,3^{68}\,4^{29}\,5^5$	437	2.953	0.0000
8	$1^{47}\,2^{157}\,3^{110}\,4^{29}\,5^2$	817	2.368	0.1362
9	$1^{240}\,2^{358}\,3^{149}\,4^{23}\,5^1$	1500	1.946	0.3113
10	$1^{797}\,2^{660}\,3^{164}\,4^{15}\,5^1$	2674	1.633	0.4869
11	$1^{2075}\,2^{1010}\,3^{157}\,4^{10}$	4606	1.416	0.6381
12	$1^{4495}\,2^{1356}\,3^{139}\,4^5$	7644	1.275	0.7498
13	$1^{8404}\,2^{1613}\,3^{101}\,4^2$	11941	1.180	0.8304
14	$1^{13855}\,2^{1693}\,3^{66}\,4^1$	17443	1.117	0.8873
15	$1^{20303}\,2^{1588}\,3^{41}\,4^1$	23606	1.076	0.9257
16	$1^{26631}\,2^{1334}\,3^{22}$	29365	1.049	0.9515
17	$1^{31400}\,2^{993}\,3^{10}$	33416	1.031	0.9690
18	$1^{33366}\,2^{669}\,3^5$	34719	1.020	0.9802
19	$1^{31996}\,2^{405}\,3^2$	32812	1.013	0.9874
20	$1^{27764}\,2^{222}\,3^1$	28211	1.008	0.9920
21	$1^{21817}\,2^{115}\,3^1$	22050	1.005	0.9947
22	$1^{15558}\,2^{57}$	15672	1.004	0.9963
23	$1^{10096}\,2^{24}$	10144	1.002	0.9976
24	$1^{5984}\,2^{11}$	6006	1.002	0.9982
25	$1^{3247}\,2^5$	3257	1.002	0.9985
26	$1^{1635}\,2^2$	1639	1.001	0.9988
27	$1^{770}\,2^1$	772	1.001	0.9987
28	$1^{344}\,2^1$	346	1.003	0.9971
29	1^{148}	148	1.000	1.0000
30	1^{63}	63	1.000	1.0000
31	1^{25}	25	1.000	1.0000
32	1^{11}	11	1.000	1.0000
33	1^5	5	1.000	1.0000
34	1^2	2	1.000	1.0000
35	1^1	1	1.000	1.0000
36	1^1	1	1.000	1.0000
Total $n=9$	$1^{261080}\,2^{12320}\,3^{1065}\,4^{156}\,5^{33}\,6^9\,7^3\,8^1\,9^1$	289796	1.055	0.9505

Number of components of graphs in $\mathcal{G}(9)$.

m	$c(n,k)$ sequence	$c(n)$	$\bar{c}(n)$	$\bar{c}(n,1)$
0	10^{1}	10	10.000	0.0000
1	9^{1}	9	9.000	0.0000
2	8^{2}	16	8.000	0.0000
3	$7^{4}\,8^{1}$	36	7.200	0.0000
4	$6^{8}\,7^{3}$	69	6.273	0.0000
5	$5^{16}\,6^{9}\,7^{1}$	141	5.423	0.0000
6	$4^{32}\,5^{26}\,6^{7}\,7^{1}$	307	4.652	0.0000
7	$3^{60}\,4^{71}\,5^{29}\,6^{5}$	639	3.873	0.0000
8	$2^{99}\,3^{186}\,4^{112}\,5^{29}\,6^{2}$	1361	3.180	0.0000
9	$1^{106}\,2^{426}\,3^{397}\,4^{150}\,5^{23}\,6^{1}$	2870	2.602	0.0961
10	$1^{657}\,2^{1233}\,3^{699}\,4^{164}\,5^{15}\,6^{1}$	5957	2.151	0.2373
11	$1^{2678}\,2^{2873}\,3^{1041}\,4^{157}\,5^{10}$	12225	1.809	0.3962
12	$1^{8548}\,2^{5705}\,3^{1375}\,4^{139}\,5^{5}$	24664	1.564	0.5420
13	$1^{22950}\,2^{9985}\,3^{1625}\,4^{101}\,5^{2}$	48209	1.391	0.6621
14	$1^{53863}\,2^{15689}\,3^{1699}\,4^{66}\,5^{1}$	90607	1.270	0.7553
15	$1^{112618}\,2^{22183}\,3^{1590}\,4^{41}\,5^{1}$	161923	1.187	0.8254
16	$1^{211866}\,2^{28354}\,3^{1335}\,4^{22}$	272667	1.129	0.8770
17	$1^{361342}\,2^{32820}\,3^{994}\,4^{10}$	430004	1.088	0.9144
18	$1^{561106}\,2^{34411}\,3^{669}\,4^{5}$	631955	1.060	0.9412
19	$1^{795630}\,2^{32691}\,3^{405}\,4^{2}$	862235	1.040	0.9601
20	$1^{1032754}\,2^{28182}\,3^{222}\,4^{1}$	1089788	1.027	0.9732
21	$1^{1229228}\,2^{22045}\,3^{115}\,4^{1}$	1273667	1.018	0.9823
22	$1^{1343120}\,2^{15675}\,3^{57}$	1374641	1.012	0.9884
23	$1^{1348674}\,2^{10154}\,3^{24}$	1369054	1.008	0.9925
24	$1^{1245369}\,2^{6009}\,3^{11}$	1257420	1.005	0.9952
25	$1^{1057896}\,2^{3258}\,3^{5}$	1064427	1.003	0.9969
26	$1^{827086}\,2^{1640}\,3^{2}$	830372	1.002	0.9980
27	$1^{595418}\,2^{772}\,3^{1}$	596965	1.001	0.9987
28	$1^{394820}\,2^{345}\,3^{1}$	395513	1.001	0.9991
29	$1^{241428}\,2^{149}$	241726	1.001	0.9994
30	$1^{136370}\,2^{63}$	136496	1.000	0.9995
31	$1^{71293}\,2^{25}$	71343	1.000	0.9996
32	$1^{34652}\,2^{11}$	34674	1.000	0.9997
33	$1^{15767}\,2^{5}$	15777	1.000	0.9997
34	$1^{6757}\,2^{2}$	6761	1.000	0.9997
35	$1^{2768}\,2^{1}$	2770	1.000	0.9996
36	$1^{1102}\,2^{1}$	1104	1.001	0.9991
37	1^{428}	428	1.000	1.0000
38	1^{165}	165	1.000	1.0000
39	1^{66}	66	1.000	1.0000
40	1^{26}	26	1.000	1.0000
41	1^{11}	11	1.000	1.0000
42	1^{5}	5	1.000	1.0000
43	1^{2}	2	1.000	1.0000
44	1^{1}	1	1.000	1.0000
45	1^{1}	1	1.000	1.0000
Total $n = 10$	$1^{11716571}\,2^{274806}\,3^{12513}\,4^{1074}\,5^{157}\,6^{33}\,7^{9}\,8^{3}\,9^{1}\,10^{1}$	12309107	1.025	0.9760

Number of components of graphs in $\mathcal{G}(10)$.