| DIMACS SAT BENCHMARKS | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| ii16a1.cnf | (Re) | 1650 | 19368 | Yes |
| ii16a2.cnf | (Re) | 1602 | 23281 | Yes |
| ii16b1.cnf | (Re) | 1728 | 24792 | Yes |
| ii16b2.cnf | (Re) | 1076 | 16121 | Yes |
| ii16c1.cnf | (Re) | 1580 | 16467 | Yes |
| ii16c2.cnf | (Re) | 924 | 13803 | Yes |
| ii16d1.cnf | (Re) | 1230 | 15901 | Yes |
| ii16d2.cnf | (Re) | 836 | 12461 | Yes |
| ii16e1.cnf | (Re) | 1245 | 14766 | Yes |
| ii16e2.cnf | (Re) | 532 | 7825 | Yes |
| ii32a1.cnf | (Re) | 459 | 9212 | Yes |
| ii32b1.cnf | (Re) | 228 | 1374 | Yes |
| ii32b2.cnf | (Re) | 261 | 2558 | Yes |
| ii32b3.cnf | (Re) | 348 | 5734 | Yes |
| ii32b4.cnf | (Re) | 381 | 9618 | Yes |
| ii32c1.cnf | (Re) | 225 | 1280 | Yes |
| ii32c2.cnf | (Re) | 249 | 2182 | Yes |
| ii32c3.cnf | (Re) | 279 | 3272 | Yes |
| ii32c4.cnf | (Re) | 759 | 20862 | Yes |
| ii32d1.cnf | (Re) | 332 | 2703 | Yes |
| ii32d2.cnf | (Re) | 404 | 5153 | Yes |
| ii32d3.cnf | (Re) | 824 | 19478 | Yes |
| ii32e1.cnf | (Re) | 222 | 1186 | Yes |
| ii32e2.cnf | (Re) | 267 | 2746 | Yes |
| ii32e3.cnf | (Re) | 330 | 5020 | Yes |
| ii32e4.cnf | (Re) | 387 | 7106 | Yes |
| ii32e5.cnf | (Re) | 522 | 11636 | Yes |
| ii8a1.cnf | (Re) | 66 | 186 | Yes |
| ii8a2.cnf | (Re) | 180 | 800 | Yes |
| ii8a3.cnf | (Re) | 264 | 1552 | Yes |
| ii8a4.cnf | (Re) | 396 | 2798 | Yes |

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| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| ii8b1.cnf | (Re) | 336 | 2068 | Yes |
| ii8b2.cnf | (Re) | 576 | 4088 | Yes |
| ii8b3.cnf | (Re) | 816 | 6108 | Yes |
| ii8b4.cnf | (Re) | 1068 | 8214 | Yes |
| ii8c1.cnf | (Re) | 510 | 3065 | Yes |
| ii8c2.cnf | (Re) | 950 | 6689 | Yes |
| ii8d1.cnf | (Re) | 530 | 3207 | Yes |
| ii8d2.cnf | (Re) | 930 | 6547 | Yes |
| ii8e1.cnf | (Re) | 520 | 3136 | Yes |
| ii8e2.cnf | (Re) | 870 | 6121 | Yes |
| bf0432-007.cnf | (BF) | 1040 | 3668 | |
| bf1355-075.cnf | (BF) | 2180 | 6778 | |
| bf1355-638.cnf | (BF) | 2177 | 4768 | No |
| bf2670-001.cnf | (BF) | 1393 | 3434 | |
| ssa0432-003.cnf | (SSA) | 435 | 1027 | No |
| ssa2670-130.cnf | (SSA) | 1359 | 3321 | |
| ssa2670-141.cnf | (SSA) | 986 | 2315 | No |
| ssa6288-047.cnf | (SSA) | 10410 | 34238 | No |
| ssa7552-038.cnf | (SSA) | 1501 | 3575 | |
| ssa7552-158.cnf | (SSA) | 1363 | 3034 | Yes |
| ssa7552-159.cnf | (SSA) | 1363 | 3032 | Yes |
| ssa7552-160.cnf | (SSA) | 1391 | 3126 | Yes |
| dubois100.cnf | (Dub) | 300 | 800 | No |
| dubois20.cnf | (Dub) | 60 | 160 | No |
| dubois21.cnf | (Dub) | 63 | 168 | No |
| dubois22.cnf | (Dub) | 66 | 176 | No |
| dubois23.cnf | (Dub) | 69 | 184 | No |
| dubois24.cnf | (Dub) | 72 | 192 | No |
| dubois25.cnf | (Dub) | 75 | 200 | No |
| dubois26.cnf | (Dub) | 78 | 208 | No |
| dubois27.cnf | (Dub) | 81 | 216 | No |

*Continued on next page*

| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| dubois28.cnf | (Dub) | 84 | 224 | No |
| dubois29.cnf | (Dub) | 87 | 232 | No |
| dubois30.cnf | (Dub) | 90 | 240 | No |
| dubois50.cnf | (Dub) | 150 | 400 | No |
| par16-1-c.cnf | (Par) | 317 | 1264 | Yes |
| par16-1.cnf | (Par) | 1015 | 3310 | Yes |
| par16-2-c.cnf | (Par) | 349 | 1392 | Yes |
| par16-2.cnf | (Par) | 1015 | 3374 | Yes |
| par16-3-c.cnf | (Par) | 334 | 1332 | Yes |
| par16-3.cnf | (Par) | 1015 | 3344 | Yes |
| par16-4-c.cnf | (Par) | 324 | 1292 | Yes |
| par16-4.cnf | (Par) | 1015 | 3324 | Yes |
| par16-5-c.cnf | (Par) | 341 | 1360 | Yes |
| par16-5.cnf | (Par) | 1015 | 3358 | Yes |
| par32-1-c.cnf | (Par) | 1315 | 5254 | Yes |
| par32-1.cnf | (Par) | 3176 | 10277 | Yes |
| par32-2-c.cnf | (Par) | 1303 | 5206 | Yes |
| par32-2.cnf | (Par) | 3176 | 10253 | Yes |
| par32-3-c.cnf | (Par) | 1325 | 5294 | Yes |
| par32-3.cnf | (Par) | 3176 | 10297 | Yes |
| par32-4-c.cnf | (Par) | 1333 | 5326 | Yes |
| par32-4.cnf | (Par) | 3176 | 10313 | Yes |
| par32-5-c.cnf | (Par) | 1339 | 5350 | Yes |
| par32-5.cnf | (Par) | 3176 | 10325 | Yes |
| par8-1-c.cnf | (Par) | 64 | 254 | Yes |
| par8-1.cnf | (Par) | 350 | 1149 | Yes |
| par8-2-c.cnf | (Par) | 68 | 270 | Yes |
| par8-2.cnf | (Par) | 350 | 1157 | Yes |
| par8-3-c.cnf | (Par) | 75 | 298 | Yes |
| par8-3.cnf | (Par) | 350 | 1171 | Yes |
| par8-4-c.cnf | (Par) | 67 | 266 | Yes |
| *Continued on next page* | | | | |

| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| par8-4.cnf | (Par) | 350 | 1155 | Yes |
| par8-5-c.cnf | (Par) | 75 | 298 | Yes |
| par8-5.cnf | (Par) | 350 | 1171 | Yes |
| f600,cnf | (LRan) | 600 | 2550 | Yes |
| f1000.cnf | (LRan) | 1000 | 4250 | Yes |
| f2000.cnf | (LRan) | 2000 | 8500 | Yes |
| g125.17.cnf | (GC) | 2125 | 66272 | Yes |
| g125.18.cnf | (GC) | 2250 | 70163 | Yes |
| g250.15.cnf | (GC) | 3750 | 233965 | Yes |
| g250.29.cnf | (GC) | 7250 | 454622 | Yes |
| hanoi4.cnf | (Han) | 718 | 4934 | Yes |
| hanoi5.cnf | (Han) | 1931 | 14468 | Yes |
| pret150_25.cnf | (Pret) | 150 | 400 | No |
| pret150_40.cnf | (Pret) | 150 | 400 | No |
| pret150_60.cnf | (Pret) | 150 | 400 | No |
| pret150_75.cnf | (Pret) | 150 | 400 | No |
| pret60_25.cnf | (Pret) | 60 | 160 | No |
| pret60_40.cnf | (Pret) | 60 | 160 | No |
| pret60_60.cnf | (Pret) | 60 | 160 | No |
| pret60_75.cnf | (Pret) | 60 | 160 | No |
| hole10.cnf | (Hole) | 110 | 561 | No |
| hole6.cnf | (Hole) | 42 | 133 | No |
| hole7.cnf | (Hole) | 56 | 204 | No |
| hole8.cnf | (Hole) | 72 | 297 | No |
| hole9.cnf | (Hole) | 90 | 415 | No |
| jnh201.cnf | (JNH) | 100 | 800 | Yes |
| jnh202.cnf | (JNH) | 100 | 800 | No |
| jnh203.cnf | (JNH) | 100 | 800 | No |
| jnh204.cnf | (JNH) | 100 | 800 | Yes |
| jnh205.cnf | (JNH) | 100 | 800 | Yes |
| jnh206.cnf | (JNH) | 100 | 800 | No |

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| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| jnh207.cnf | (JNH) | 100 | 800 | Yes |
| jnh208.cnf | (JNH) | 100 | 800 | No |
| jnh209.cnf | (JNH) | 100 | 800 | Yes |
| jnh210.cnf | (JNH) | 100 | 800 | Yes |
| jnh211.cnf | (JNH) | 100 | 800 | No |
| jnh212.cnf | (JNH) | 100 | 800 | Yes |
| jnh213.cnf | (JNH) | 100 | 800 | Yes |
| jnh214.cnf | (JNH) | 100 | 800 | No |
| jnh215.cnf | (JNH) | 100 | 800 | No |
| jnh216.cnf | (JNH) | 100 | 800 | No |
| jnh217.cnf | (JNH) | 100 | 800 | Yes |
| jnh218.cnf | (JNH) | 100 | 800 | Yes |
| jnh219.cnf | (JNH) | 100 | 800 | No |
| jnh220.cnf | (JNH) | 100 | 800 | Yes |
| jnh301.cnf | (JNH) | 100 | 900 | Yes |
| jnh302.cnf | (JNH) | 100 | 900 | No |
| jnh303.cnf | (JNH) | 100 | 900 | No |
| jnh304.cnf | (JNH) | 100 | 900 | No |
| jnh305.cnf | (JNH) | 100 | 900 | No |
| jnh306.cnf | (JNH) | 100 | 900 | No |
| jnh307.cnf | (JNH) | 100 | 900 | No |
| jnh308.cnf | (JNH) | 100 | 900 | No |
| jnh309.cnf | (JNH) | 100 | 900 | No |
| jnh310.cnf | (JNH) | 100 | 900 | No |
| jnh1.cnf | (JNH) | 100 | 850 | Yes |
| jnh2.cnf | (JNH) | 100 | 850 | No |
| jnh3.cnf | (JNH) | 100 | 850 | No |
| jnh4.cnf | (JNH) | 100 | 850 | No |
| jnh5.cnf | (JNH) | 100 | 850 | No |
| jnh6.cnf | (JNH) | 100 | 850 | No |
| jnh7.cnf | (JNH) | 100 | 850 | Yes |
| *Continued on next page* | | | | |

| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| jnh8.cnf | (JNH) | 100 | 850 | No |
| jnh9.cnf | (JNH) | 100 | 850 | No |
| jnh10.cnf | (JNH) | 100 | 850 | No |
| jnh11.cnf | (JNH) | 100 | 850 | No |
| jnh12.cnf | (JNH) | 100 | 850 | Yes |
| jnh13.cnf | (JNH) | 100 | 850 | No |
| jnh14.cnf | (JNH) | 100 | 850 | No |
| jnh15.cnf | (JNH) | 100 | 850 | No |
| jnh16.cnf | (JNH) | 100 | 850 | No |
| jnh17.cnf | (JNH) | 100 | 850 | Yes |
| jnh18.cnf | (JNH) | 100 | 850 | No |
| jnh19.cnf | (JNH) | 100 | 850 | No |
| jnh20.cnf | (JNH) | 100 | 850 | No |
| aim-100-1_6-no-1.cnf | (AIM) | 100 | 160 | No |
| aim-100-1_6-no-2.cnf | (AIM) | 100 | 160 | No |
| aim-100-1_6-no-3.cnf | (AIM) | 100 | 160 | No |
| aim-100-1_6-no-4.cnf | (AIM) | 100 | 160 | No |
| aim-100-1_6-yes1-1.cnf | (AIM) | 100 | 160 | Yes |
| aim-100-1_6-yes1-2.cnf | (AIM) | 100 | 160 | Yes |
| aim-100-1_6-yes1-3.cnf | (AIM) | 100 | 160 | Yes |
| aim-100-1_6-yes1-4.cnf | (AIM) | 100 | 160 | Yes |
| aim-100-2_0-no-1.cnf | (AIM) | 100 | 200 | No |
| aim-100-2_0-no-2.cnf | (AIM) | 100 | 200 | No |
| aim-100-2_0-no-3.cnf | (AIM) | 100 | 200 | No |
| aim-100-2_0-no-4.cnf | (AIM) | 100 | 200 | No |
| aim-100-2_0-yes1-1.cnf | (AIM) | 100 | 200 | Yes |
| aim-100-2_0-yes1-2.cnf | (AIM) | 100 | 200 | Yes |
| aim-100-2_0-yes1-3.cnf | (AIM) | 100 | 200 | Yes |
| aim-100-2_0-yes1-4.cnf | (AIM) | 100 | 200 | Yes |
| aim-100-3_4-yes1-1.cnf | (AIM) | 100 | 340 | Yes |
| aim-100-3_4-yes1-2.cnf | (AIM) | 100 | 340 | Yes |
| *Continued on next page* | | | | |

| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| aim-100-3_4-yes1-3.cnf | (AIM) | 100 | 340 | Yes |
| aim-100-3_4-yes1-4.cnf | (AIM) | 100 | 340 | Yes |
| aim-100-6_0-yes1-1.cnf | (AIM) | 100 | 600 | Yes |
| aim-100-6_0-yes1-2.cnf | (AIM) | 100 | 600 | Yes |
| aim-100-6_0-yes1-3.cnf | (AIM) | 100 | 600 | Yes |
| aim-100-6_0-yes1-4.cnf | (AIM) | 100 | 600 | Yes |
| aim-200-1_6-no-1.cnf | (AIM) | 200 | 320 | No |
| aim-200-1_6-no-2.cnf | (AIM) | 200 | 320 | No |
| aim-200-1_6-no-3.cnf | (AIM) | 200 | 320 | No |
| aim-200-1_6-no-4.cnf | (AIM) | 200 | 320 | No |
| aim-200-1_6-yes1-1.cnf | (AIM) | 200 | 320 | Yes |
| aim-200-1_6-yes1-2.cnf | (AIM) | 200 | 320 | Yes |
| aim-200-1_6-yes1-3.cnf | (AIM) | 200 | 320 | Yes |
| aim-200-1_6-yes1-4.cnf | (AIM) | 200 | 320 | Yes |
| aim-200-2_0-no-1.cnf | (AIM) | 200 | 400 | No |
| aim-200-2_0-no-2.cnf | (AIM) | 200 | 400 | No |
| aim-200-2_0-no-3.cnf | (AIM) | 200 | 400 | No |
| aim-200-2_0-no-4.cnf | (AIM) | 200 | 400 | No |
| aim-200-2_0-yes1-1.cnf | (AIM) | 200 | 400 | Yes |
| aim-200-2_0-yes1-2.cnf | (AIM) | 200 | 400 | Yes |
| aim-200-2_0-yes1-3.cnf | (AIM) | 200 | 400 | Yes |
| aim-200-2_0-yes1-4.cnf | (AIM) | 200 | 400 | Yes |
| aim-200-3_4-yes1-1.cnf | (AIM) | 200 | 680 | Yes |
| aim-200-3_4-yes1-2.cnf | (AIM) | 200 | 680 | Yes |
| aim-200-3_4-yes1-3.cnf | (AIM) | 200 | 680 | Yes |
| aim-200-3_4-yes1-4.cnf | (AIM) | 200 | 680 | Yes |
| aim-200-6_0-yes1-1.cnf | (AIM) | 200 | 1200 | Yes |
| aim-200-6_0-yes1-2.cnf | (AIM) | 200 | 1200 | Yes |
| aim-200-6_0-yes1-3.cnf | (AIM) | 200 | 1200 | Yes |
| aim-200-6_0-yes1-4.cnf | (AIM) | 200 | 1200 | Yes |
| aim-50-1_6-no-1.cnf | (AIM) | 50 | 80 | No |

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| DIMACS SAT BENCHMARKS (cont.) | | | | |
|---|---|---|---|---|
| File | Code | Variables | Clauses | Satisfiable? |
| aim-50-1_6-no-2.cnf | (AIM) | 50 | 80 | No |
| aim-50-1_6-no-3.cnf | (AIM) | 50 | 80 | No |
| aim-50-1_6-no-4.cnf | (AIM) | 50 | 80 | No |
| aim-50-1_6-yes1-1.cnf | (AIM) | 50 | 80 | Yes |
| aim-50-1_6-yes1-2.cnf | (AIM) | 50 | 80 | Yes |
| aim-50-1_6-yes1-3.cnf | (AIM) | 50 | 80 | Yes |
| aim-50-1_6-yes1-4.cnf | (AIM) | 50 | 80 | Yes |
| aim-50-2_0-no-1.cnf | (AIM) | 50 | 100 | No |
| aim-50-2_0-no-2.cnf | (AIM) | 50 | 100 | No |
| aim-50-2_0-no-3.cnf | (AIM) | 50 | 100 | No |
| aim-50-2_0-no-4.cnf | (AIM) | 50 | 100 | No |
| aim-50-2_0-yes1-1.cnf | (AIM) | 50 | 100 | Yes |
| aim-50-2_0-yes1-2.cnf | (AIM) | 50 | 100 | Yes |
| aim-50-2_0-yes1-3.cnf | (AIM) | 50 | 100 | Yes |
| aim-50-2_0-yes1-4.cnf | (AIM) | 50 | 100 | Yes |
| aim-50-3_4-yes1-1.cnf | (AIM) | 50 | 170 | Yes |
| aim-50-3_4-yes1-2.cnf | (AIM) | 50 | 170 | Yes |
| aim-50-3_4-yes1-3.cnf | (AIM) | 50 | 170 | Yes |
| aim-50-3_4-yes1-4.cnf | (AIM) | 50 | 170 | Yes |
| aim-50-6_0-yes1-1.cnf | (AIM) | 50 | 300 | Yes |
| aim-50-6_0-yes1-2.cnf | (AIM) | 50 | 300 | Yes |
| aim-50-6_0-yes1-3.cnf | (AIM) | 50 | 300 | Yes |
| aim-50-6_0-yes1-4.cnf | (AIM) | 50 | 300 | Yes |

**NOTES:**

(FAW) denotes problems that are part of the collection of problems assembled by F.J. Radermacher and J. Mayer at the Forschungsinstitut für anwndungsorientierte Wissensverarbeitung in Ulm Germany.

**Re** From Mauricio Resende `mgcr@research.att.com`. From "A continuous approach to inductive inference", by Kamath, Karmarkar, Ramakrishanan, and Resende (Mathematical Programming 57: 215–238 (1992)).

**SSA** (From Allen Van Gelder `avg@cs.ucsd.edu` and Yumi Tsuji `tsuji@cse.ucsc.edu`) Instances from circuit fault analysis: checking for cicuit "single–stuck–at" fault. For more instances, see the sat/contributed/UCSC/instances

directory.

**BF** (From Allen Van Gelder avg@cs.ucsd.edu and Yumi Tsuji tsuji@cse.ucsc.edu) Instances from circuit fault analysis: checking for cicuit "bridge–fault". For more instances, see the sat/contributed/UCSC/instances directory.

**Dub** (From Olivier Dubois dubois@laforia.ibp.fr Instances from the gensathard.c code. For generator see the sat/contributed/dubois directory.

**Par** (From James Crawford jc@research.att.com) Instances that arise from a problem in learning the parity function. For more details, see the README in the sat/contributed/crawford directory.

**LRan** (From Bart Selman selman@research.att.com) Large random satisfiable instances. See also the README.cnf in sat/contributed/selman.

**GC** (From Bart Selman selman@research.att.com) The boolean satisfiability form of a hard graph coloring problem. See also the README.cnf in sat/contributed/selman.

**Hanoi** (From Bart Selman selman@research.att.com) An encoding of the Towers of Hanoi problem. Contact kautz@research.att.com for more information and similar instances. See also the README.cnf file in sat/contributed/selman.

**Pret** (From Daniele Pretolani daniele@crt.umontreal.ca) An encoding of two–coloring a graph, along with a parity constraint to force nonsatisfiablity. Generator is in sat/contributed/pretolani.

**JNH** (From John Hooker jh38+@andrew.cmu.edu) (FAW) A set of random instances generated to be difficult by rejecting unit clauses and setting the density to a hard value.

**Hole** (From John Hooker jh38+@andrew.cmu.edu) (FAW) Instance of the pigeon hole problem. holen asks if it is possible to place n+1 pigeons in n holes without two pigeons being in the same hole.

**AIM** (From Eiji Miyano miyano@csce.kyushu-u.ac.jp) Artificially generated 3–sat instances. All the "yes" instances have exactly one satisfying assignment. For generators and further information, see sat/contributed/iwama.