



Pomiary czasów działania implementacji poszczególnych algorytmów faktoryzacji LU:

Matrix 10x10:

Crout: 8.106231689453125e-05s
Doolittle: 0.0004286766052246094s
Cholesky: 0.00020074844360351562s

Matrix 11x11:

Crout: 9.918212890625e-05s
Doolittle: 0.0005290508270263672s
Cholesky: 0.00024390220642089844s

Matrix 12x12:

Crout: 0.0001437664031982422s
Doolittle: 0.0006506443023681641s
Cholesky: 0.0003046989440917969s

Matrix 13x13:

Crout: 0.00014138221740722656s
Doolittle: 0.0007660388946533203s
Cholesky: 0.0003533363342285156s

Matrix 14x14:

Crout: 0.00016546249389648438s
Doolittle: 0.0009660720825195312s
Cholesky: 0.00043082237243652344s

Matrix 15x15:

Crout: 0.00019240379333496094s
Doolittle: 0.0010268688201904297s
Cholesky: 0.00046753883361816406s

Matrix 16x16:

Crout: 0.00022101402282714844s
Doolittle: 0.0011985301971435547s
Cholesky: 0.0005331039428710938s

Matrix 17x17:

Crout: 0.0002560615539550781s
Doolittle: 0.0014488697052001953s
Cholesky: 0.0006308555603027344s

Matrix 18x18:

Crout: 0.00029277801513671875s
Doolittle: 0.0016052722930908203s
Cholesky: 0.0006983280181884766s

Matrix 19x19:

Crout: 0.0003323554992675781s
Doolittle: 0.001821279525756836s
Cholesky: 0.0008025169372558594s

Matrix 20x20:

Crout: 0.00037932395935058594s
Doolittle: 0.002093791961669922s
Cholesky: 0.0009076595306396484s

Matrix 21x21:

Crout: 0.0004475116729736328s
Doolittle: 0.0022134780883789062s
Cholesky: 0.0009932518005371094s

Matrix 22x22:

Crout: 0.00048065185546875s
Doolittle: 0.0025429725646972656s
Cholesky: 0.0011141300201416016s

Matrix 23x23:

Crout: 0.0005321502685546875s
Doolittle: 0.002698183059692383s
Cholesky: 0.0012123584747314453s

Matrix 24x24:

Crout: 0.00058746337890625s
Doolittle: 0.003135204315185547s
Cholesky: 0.0013740062713623047s

Matrix 25x25:

Crout: 0.0006821155548095703s
Doolittle: 0.0033690929412841797s
Cholesky: 0.0015680789947509766s

Matrix 26x26:

Crout: 0.0007236003875732422s
Doolittle: 0.0036668777465820312s
Cholesky: 0.0016193389892578125s

Matrix 27x27:

Crout: 0.0007898807525634766s
Doolittle: 0.004014492034912109s
Cholesky: 0.001764059066772461s

Matrix 28x28:

Crout: 0.000865936279296875s
Doolittle: 0.0043773651123046875s
Cholesky: 0.0019292831420898438s

Matrix 29x29:

Crout: 0.0009515285491943359s
Doolittle: 0.004738330841064453s
Cholesky: 0.002082347869873047s

Matrix 30x30:

Crout: 0.001032114028930664s
Doolittle: 0.0051419734954833984s
Cholesky: 0.0022668838500976562s

Matrix 31x31:

Crout: 0.0011320114135742188s
Doolittle: 0.00556492805480957s
Cholesky: 0.002482891082763672s

Matrix 32x32:

Crout: 0.0012326240539550781s

Doolittle: 0.0060272216796875s
Cholesky: 0.0026733875274658203s

Matrix 33x33:

Crout: 0.001344919204711914s
Doolittle: 0.006558895111083984s
Cholesky: 0.0029299259185791016s

Matrix 34x34:

Crout: 0.0014426708221435547s
Doolittle: 0.006904125213623047s
Cholesky: 0.0030982494354248047s

Matrix 35x35:

Crout: 0.0015749931335449219s
Doolittle: 0.007397174835205078s
Cholesky: 0.0033016204833984375s

Matrix 36x36:

Crout: 0.0017347335815429688s
Doolittle: 0.008122444152832031s
Cholesky: 0.0035643577575683594s

Matrix 37x37:

Crout: 0.0017840862274169922s
Doolittle: 0.008358240127563477s
Cholesky: 0.003835916519165039s

Matrix 38x38:

Crout: 0.0019118785858154297s
Doolittle: 0.008938074111938477s
Cholesky: 0.00409245491027832s

Matrix 39x39:

Crout: 0.0020530223846435547s
Doolittle: 0.009540319442749023s
Cholesky: 0.004377603530883789s

Matrix 40x40:

Crout: 0.0021910667419433594s
Doolittle: 0.010279178619384766s
Cholesky: 0.004678487777709961s

Matrix 41x41:

Crout: 0.002411365509033203s
Doolittle: 0.010762691497802734s

Cholesky: 0.004937887191772461s

Matrix 42x42:

Crout: 0.0024924278259277344s

Doolittle: 0.011513471603393555s

Cholesky: 0.00529932975769043s

Matrix 43x43:

Crout: 0.0027370452880859375s

Doolittle: 0.01222085952758789s

Cholesky: 0.005436897277832031s

Matrix 44x44:

Crout: 0.0030150413513183594s

Doolittle: 0.0128936767578125s

Cholesky: 0.0059947967529296875s

Matrix 45x45:

Crout: 0.0031533241271972656s

Doolittle: 0.01359415054321289s

Cholesky: 0.006209850311279297s

Matrix 46x46:

Crout: 0.003287076950073242s

Doolittle: 0.014339923858642578s

Cholesky: 0.006498813629150391s

Matrix 47x47:

Crout: 0.0034797191619873047s

Doolittle: 0.015075922012329102s

Cholesky: 0.006854057312011719s

Matrix 48x48:

Crout: 0.003634214401245117s

Doolittle: 0.015872716903686523s

Cholesky: 0.007295370101928711s

Matrix 49x49:

Crout: 0.0038275718688964844s

Doolittle: 0.01676034927368164s

Cholesky: 0.007576465606689453s

Matrix 50x50:

Crout: 0.004098415374755859s

Doolittle: 0.0176851749420166s

Cholesky: 0.008142948150634766s

Matrix 51x51:

Crout: 0.004202127456665039s
Doolittle: 0.01847219467163086s
Cholesky: 0.008483409881591797s

Matrix 52x52:

Crout: 0.004517316818237305s
Doolittle: 0.019393444061279297s
Cholesky: 0.008925199508666992s

Matrix 53x53:

Crout: 0.004647016525268555s
Doolittle: 0.020289897918701172s
Cholesky: 0.009392499923706055s

Matrix 54x54:

Crout: 0.004908323287963867s
Doolittle: 0.021129608154296875s
Cholesky: 0.009790658950805664s

Matrix 55x55:

Crout: 0.005297183990478516s
Doolittle: 0.022171497344970703s
Cholesky: 0.010225296020507812s

Matrix 56x56:

Crout: 0.005489349365234375s
Doolittle: 0.023331642150878906s
Cholesky: 0.010778427124023438s

Matrix 57x57:

Crout: 0.005650997161865234s
Doolittle: 0.02453136444091797s
Cholesky: 0.011131763458251953s

Matrix 58x58:

Crout: 0.006229877471923828s
Doolittle: 0.02532792091369629s
Cholesky: 0.011963129043579102s

Matrix 59x59:

Crout: 0.006287097930908203s
Doolittle: 0.026532411575317383s
Cholesky: 0.012146949768066406s

Matrix 60x60:

Crout: 0.006714344024658203s
Doolittle: 0.02756953239440918s
Cholesky: 0.012676000595092773s

Matrix 61x61:

Crout: 0.0070760250091552734s
Doolittle: 0.02908468246459961s
Cholesky: 0.013455390930175781s

Matrix 62x62:

Crout: 0.0072095394134521484s
Doolittle: 0.03018331527709961s
Cholesky: 0.013778209686279297s

Matrix 63x63:

Crout: 0.007875680923461914s
Doolittle: 0.031229496002197266s
Cholesky: 0.01452946662902832s

Matrix 64x64:

Crout: 0.007771015167236328s
Doolittle: 0.03266716003417969s
Cholesky: 0.015038728713989258s

Matrix 65x65:

Crout: 0.008332014083862305s
Doolittle: 0.03405189514160156s
Cholesky: 0.015665769577026367s

Matrix 66x66:

Crout: 0.00878143310546875s
Doolittle: 0.035307884216308594s
Cholesky: 0.016192913055419922s

Matrix 67x67:

Crout: 0.009222984313964844s
Doolittle: 0.03683972358703613s
Cholesky: 0.016819238662719727s

Matrix 68x68:

Crout: 0.009288311004638672s
Doolittle: 0.03813338279724121s
Cholesky: 0.017620086669921875s

Matrix 69x69:

Crout: 0.009614706039428711s
Doolittle: 0.03996419906616211s
Cholesky: 0.01832294464111328s

Matrix 70x70:

Crout: 0.010167598724365234s
Doolittle: 0.04143571853637695s
Cholesky: 0.018923282623291016s

Matrix 71x71:

Crout: 0.01061868667602539s
Doolittle: 0.04302024841308594s
Cholesky: 0.019821643829345703s

Matrix 72x72:

Crout: 0.010782718658447266s
Doolittle: 0.044359683990478516s
Cholesky: 0.020629167556762695s

Matrix 73x73:

Crout: 0.01142120361328125s
Doolittle: 0.04640841484069824s
Cholesky: 0.02120041847229004s

Matrix 74x74:

Crout: 0.011935234069824219s
Doolittle: 0.04749751091003418s
Cholesky: 0.02211928367614746s

Matrix 75x75:

Crout: 0.012417793273925781s
Doolittle: 0.049001455307006836s
Cholesky: 0.022965669631958008s

Matrix 76x76:

Crout: 0.012889385223388672s
Doolittle: 0.051158905029296875s
Cholesky: 0.023674964904785156s

Matrix 77x77:

Crout: 0.01310873031616211s
Doolittle: 0.05281424522399902s
Cholesky: 0.024543285369873047s

Matrix 78x78:

Crout: 0.013822078704833984s

Doolittle: 0.05446052551269531s
Cholesky: 0.025395631790161133s

Matrix 79x79:

Crout: 0.01469564437866211s
Doolittle: 0.05593729019165039s
Cholesky: 0.026734352111816406s

Matrix 80x80:

Crout: 0.015381813049316406s
Doolittle: 0.05794811248779297s
Cholesky: 0.027172088623046875s

Matrix 81x81:

Crout: 0.015572071075439453s
Doolittle: 0.06035971641540527s
Cholesky: 0.02819061279296875s

Matrix 82x82:

Crout: 0.016388654708862305s
Doolittle: 0.062249183654785156s
Cholesky: 0.02917027473449707s

Matrix 83x83:

Crout: 0.016509056091308594s
Doolittle: 0.06406545639038086s
Cholesky: 0.03028392791748047s

Matrix 84x84:

Crout: 0.01699066162109375s
Doolittle: 0.06666684150695801s
Cholesky: 0.030983924865722656s

Matrix 85x85:

Crout: 0.01800537109375s
Doolittle: 0.06903839111328125s
Cholesky: 0.03180670738220215s

Matrix 86x86:

Crout: 0.018525362014770508s
Doolittle: 0.07177424430847168s
Cholesky: 0.03368711471557617s

Matrix 87x87:

Crout: 0.019176721572875977s
Doolittle: 0.07416844367980957s

Cholesky: 0.034665822982788086s

Matrix 88x88:

Crout: 0.02024984359741211s

Doolittle: 0.07646417617797852s

Cholesky: 0.035973548889160156s

Matrix 89x89:

Crout: 0.020798206329345703s

Doolittle: 0.07880306243896484s

Cholesky: 0.03659844398498535s

Matrix 90x90:

Crout: 0.0214841365814209s

Doolittle: 0.08072304725646973s

Cholesky: 0.03804898262023926s

Matrix 91x91:

Crout: 0.02251124382019043s

Doolittle: 0.0839226245880127s

Cholesky: 0.03911256790161133s

Matrix 92x92:

Crout: 0.02272939682006836s

Doolittle: 0.08561563491821289s

Cholesky: 0.040032386779785156s

Matrix 93x93:

Crout: 0.023353099822998047s

Doolittle: 0.08814263343811035s

Cholesky: 0.041100502014160156s

Matrix 94x94:

Crout: 0.02417898178100586s

Doolittle: 0.0898432731628418s

Cholesky: 0.04271864891052246s

Matrix 95x95:

Crout: 0.025250911712646484s

Doolittle: 0.09324097633361816s

Cholesky: 0.04377436637878418s

Matrix 96x96:

Crout: 0.025959014892578125s

Doolittle: 0.0982217788696289s

Cholesky: 0.045614004135131836s

Matrix 97x97:

Crout: 0.02695178985595703s
Doolittle: 0.09960079193115234s
Cholesky: 0.046002864837646484s

Matrix 98x98:

Crout: 0.027794361114501953s
Doolittle: 0.10429668426513672s
Cholesky: 0.048413753509521484s

Matrix 99x99:

Crout: 0.029146671295166016s
Doolittle: 0.10720229148864746s
Cholesky: 0.048191070556640625s

Matrix 100x100:

Crout: 0.02873063087463379s
Doolittle: 0.1057744026184082s
Cholesky: 0.05021548271179199s

Matrix 101x101:

Crout: 0.030621767044067383s
Doolittle: 0.11327290534973145s
Cholesky: 0.051648855209350586s

Matrix 102x102:

Crout: 0.030448198318481445s
Doolittle: 0.12168145179748535s
Cholesky: 0.05236029624938965s

Matrix 103x103:

Crout: 0.03105020523071289s
Doolittle: 0.11528730392456055s
Cholesky: 0.054572105407714844s

Matrix 104x104:

Crout: 0.03319144248962402s
Doolittle: 0.12364339828491211s
Cholesky: 0.05628395080566406s

Matrix 105x105:

Crout: 0.03555035591125488s
Doolittle: 0.12227845191955566s
Cholesky: 0.056871891021728516s

Matrix 106x106:

Crout: 0.03422188758850098s
Doolittle: 0.1252734661102295s
Cholesky: 0.05896472930908203s

Matrix 107x107:

Crout: 0.036042213439941406s
Doolittle: 0.13160228729248047s
Cholesky: 0.06051206588745117s

Matrix 108x108:

Crout: 0.0391688346862793s
Doolittle: 0.12769055366516113s
Cholesky: 0.061040401458740234s

Matrix 109x109:

Crout: 0.036699771881103516s
Doolittle: 0.136976957321167s
Cholesky: 0.062322139739990234s

Matrix 110x110:

Crout: 0.03851008415222168s
Doolittle: 0.1365985870361328s
Cholesky: 0.06509876251220703s

Matrix 111x111:

Crout: 0.038095951080322266s
Doolittle: 0.13554763793945312s
Cholesky: 0.06549596786499023s

Matrix 112x112:

Crout: 0.0409696102142334s
Doolittle: 0.1449446678161621s
Cholesky: 0.0683603286743164s

Matrix 113x113:

Crout: 0.04147148132324219s
Doolittle: 0.1459636688232422s
Cholesky: 0.06843781471252441s

Matrix 114x114:

Crout: 0.04375910758972168s
Doolittle: 0.15073919296264648s
Cholesky: 0.07047295570373535s

Matrix 115x115:

Crout: 0.04324007034301758s
Doolittle: 0.1533339023590088s
Cholesky: 0.07164382934570312s

Matrix 116x116:

Crout: 0.044114112854003906s
Doolittle: 0.155165433883667s
Cholesky: 0.07456398010253906s

Matrix 117x117:

Crout: 0.044798851013183594s
Doolittle: 0.1597275733947754s
Cholesky: 0.07721328735351562s

Matrix 118x118:

Crout: 0.047934532165527344s
Doolittle: 0.15959429740905762s
Cholesky: 0.0785210132598877s

Matrix 119x119:

Crout: 0.046927690505981445s
Doolittle: 0.1629798412322998s
Cholesky: 0.07828187942504883s

Matrix 120x120:

Crout: 0.0489201545715332s
Doolittle: 0.17100095748901367s
Cholesky: 0.08073997497558594s

Matrix 121x121:

Crout: 0.05028080940246582s
Doolittle: 0.17621612548828125s
Cholesky: 0.08222746849060059s

Matrix 122x122:

Crout: 0.05277514457702637s
Doolittle: 0.1784200668334961s
Cholesky: 0.08476924896240234s

Matrix 123x123:

Crout: 0.053624868392944336s
Doolittle: 0.18528223037719727s
Cholesky: 0.08679604530334473s

Matrix 124x124:

Crout: 0.05532979965209961s

Doolittle: 0.19105100631713867s
Cholesky: 0.08954715728759766s

Matrix 125x125:

Crout: 0.05562591552734375s
Doolittle: 0.19571781158447266s
Cholesky: 0.09086751937866211s

Matrix 126x126:

Crout: 0.05816292762756348s
Doolittle: 0.19875717163085938s
Cholesky: 0.09283876419067383s

Matrix 127x127:

Crout: 0.0594019889831543s
Doolittle: 0.20508480072021484s
Cholesky: 0.0951237678527832s

Matrix 128x128:

Crout: 0.059650421142578125s
Doolittle: 0.20845627784729004s
Cholesky: 0.09690523147583008s

Matrix 129x129:

Crout: 0.06202244758605957s
Doolittle: 0.21305561065673828s
Cholesky: 0.09968185424804688s

Matrix 130x130:

Crout: 0.06411266326904297s
Doolittle: 0.21801185607910156s
Cholesky: 0.10181903839111328s

Matrix 131x131:

Crout: 0.0642087459564209s
Doolittle: 0.22217392921447754s
Cholesky: 0.10370111465454102s

Matrix 132x132:

Crout: 0.06556558609008789s
Doolittle: 0.22658610343933105s
Cholesky: 0.10557150840759277s

Matrix 133x133:

Crout: 0.06781244277954102s
Doolittle: 0.2294142246246338s

Cholesky: 0.10764050483703613s

Matrix 134x134:

Crout: 0.06966543197631836s

Doolittle: 0.23270559310913086s

Cholesky: 0.11280941963195801s

Matrix 135x135:

Crout: 0.06711292266845703s

Doolittle: 0.23318791389465332s

Cholesky: 0.11467719078063965s

Matrix 136x136:

Crout: 0.0703587532043457s

Doolittle: 0.24464893341064453s

Cholesky: 0.11495208740234375s

Matrix 137x137:

Crout: 0.07409381866455078s

Doolittle: 0.25095415115356445s

Cholesky: 0.11707377433776855s

Matrix 138x138:

Crout: 0.07468795776367188s

Doolittle: 0.2560744285583496s

Cholesky: 0.12008905410766602s

Matrix 139x139:

Crout: 0.07845950126647949s

Doolittle: 0.26177430152893066s

Cholesky: 0.12161612510681152s

Matrix 140x140:

Crout: 0.08059501647949219s

Doolittle: 0.2648022174835205s

Cholesky: 0.12452840805053711s

Matrix 141x141:

Crout: 0.0807182788848877s

Doolittle: 0.27158665657043457s

Cholesky: 0.12758135795593262s

Matrix 142x142:

Crout: 0.08235359191894531s

Doolittle: 0.27771615982055664s

Cholesky: 0.1293795108795166s

Matrix 143x143:

Crout: 0.08426499366760254s
Doolittle: 0.281848669052124s
Cholesky: 0.13228440284729004s

Matrix 144x144:

Crout: 0.08615398406982422s
Doolittle: 0.2878737449645996s
Cholesky: 0.13451313972473145s

Matrix 145x145:

Crout: 0.08789396286010742s
Doolittle: 0.2949411869049072s
Cholesky: 0.13820457458496094s

Matrix 146x146:

Crout: 0.0897681713104248s
Doolittle: 0.2994723320007324s
Cholesky: 0.14084744453430176s

Matrix 147x147:

Crout: 0.09636187553405762s
Doolittle: 0.3056039810180664s
Cholesky: 0.14020276069641113s

Matrix 148x148:

Crout: 0.09587836265563965s
Doolittle: 0.29769444465637207s
Cholesky: 0.14493370056152344s

Matrix 149x149:

Crout: 0.09542179107666016s
Doolittle: 0.31432580947875977s
Cholesky: 0.14725375175476074s