**Freelancer**

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| **average SW(S)/SW(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** | **11** | **12** |
| **CSG** | 0,943304 | **1** | 0,983243 | 0,932576 | 0,95187 | 0,834745 | 0,746395 | 0,941865 | 0,83263 | 0,812735 | 0,682487 | 0,781599 |
| **dUSM** | 0,956247 | 0,970362 | 0,963771 | 0,951255 | 0,91456 | 0,954942 | 0,950935 | 0,911031 | 0,906053 | 0,939273 | 0,950848 | 0,936867 |
| **dgreedy** | 0,9875 | **1** | **1** | 0,996479 | **1** | 0,979016 | 0,981421 | 0,993909 | 0,983611 | 0,978091 | 0,978552 | 0,983971 |
| **ROI** | 0,982143 | **1** | 0,997935 | 0,996479 | 0,999884 | 0,976222 | 0,975503 | 0,990216 | 0,977812 | 0,971571 | 0,978552 | 0,981923 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

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| **average SC(S)/SC(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** | **11** | **12** |
| **CSG** | 1,011443 | **1** | 1,006843 | 1,021212 | 1,018606 | 1,034047 | 1,038846 | 1,039055 | 1,073744 | 1,050799 | 1,044016 | 1,045723 |
| **dUSM** | 1,012852 | 1,042555542 | 1,02976 | 1,014792 | 1,048661 | 1,010073 | 1,006801 | 1,084165 | 1,043236 | 1,017654 | 1,007221 | 1,013155 |
| **dgreedy** | 1,001794 | **1** | **1** | 1,00088 | **1** | 1,003599 | 1,003 | 1,005129 | 1,007153 | 1,006015 | 1,002891 | 1,003269 |
| **ROI** | 1,003183 | **1** | 1,001338 | 1,00088 | 1,000157 | 1,004138 | 1,003979 | 1,007403 | 1,009833 | 1,008241 | 1,002891 | 1,003769 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

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| **Worst N column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** | **11** | **12** |
| **CSG** | 0,714286 | **1** | 0,832432 | 0,78169 | 0,75510 | 0,70732 | 0,6129 | 0,818182 | 0,488584 | 0,76 | 0,4881 | 0,65405 |
| **dUSM** | 0,82143 | 0,92021277 | 0,93171 | 0,80282 | 0,91456 | 0,87578 | 0,85417 | 0,882352941 | 0,86842 | 0,9083 | 0,89362 | 0,87574 |
| **dgreedy** | 0,875 | **1** | **1** | 0,96479 | **1** | 0,8875 | 0,95327 | 0,97326 | 0,96347 | 0,95025 | 0,9111 | 0,9625 |
| **ROI** | 0,875 | **1** | 0,97935 | 0,96479 | 0,99884 | 0,8875 | 0,90909 | 0,95187 | 0,95033 | 0,95025 | 0,91111 | 0,9625 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

**=MIN(N2:N11)**

**=MAX(Z2:Z11)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Worst Ζ column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** | **11** | **12** |
| **CSG** | 1,074074 | **1** | 1,068433 | 1,054577 | 1,055556 | 1,06051 | 1,06083 | 1,104762 | 1,2 | 1,07516 | 1,07683 | 1,08545 |
| **dUSM** | 1,04735 | 1,18817204 | 1,07621 | 1,0493 | 1,048661 | 1,02922 | 1,01837 | 1,137209302 | 1,06944 | 1,03431 | 1,02193 | 1,02672 |
| **dgreedy** | 1,01794 | **1** | **1** | 1,0088 | **1** | 1,0144 | 1,00852 | 1,02619 | 1,01429 | 1,01393 | 1,0108 | 1,00823 |
| **ROI** | 1,01794 | **1** | 1,01338 | 1,0088 | 1,00157 | 1,0144 | 1,01425 | 1,02314 | 1,0274 | 1,01797 | 1,01077 | 1,00871 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

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| **Average percentage of selected workers** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** | **11** | **12** |
| **CSG** | **0,54** | 0,3 | 0,45 | 0,44 | 0,205 | 0,27 | 0,225 | 0,192 | 0,184 | 0,152 | 0,215 | 0,165 |
| **dUSM** | **0,62** | 0,32 | **0,51** | **0,55** | 0,25 | 0,435 | 0,48 | 0,264 | 0,328 | 0,324 | 0,49 | 0,3625 |
| **dgreedy** | **0,58** | 0,3 | 0,47 | **0,53** | 0,235 | 0,42 | 0,455 | 0,22 | 0,306 | 0,302 | 0,46 | 0,345 |
| **ROI** | **0,6** | 0,3 | 0,48 | **0,53** | 0,245 | 0,425 | 0,465 | 0,238 | 0,316 | 0,304 | 0,46 | 0,345 |
| **Winner** | **0,56** | 0,3 | 0,47 | **0,53** | 0,24 | 0,405 | 0,46 | 0,228 | 0,302 | 0,28 | 0,46 | 0,335 |

**Guru**

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| **average SW(S)/SW(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** |
| **CSG** | 0,981882 | 0,951035 | 0,958088 | 0,956699 | 0,942734 | 0,954908 | 0,914274 | 0,919468 |
| **dUSM** | 0,957051 | 0,938909 | 0,983456 | 0,942846 | 0,983167 | 0,9443 | 0,943157 | 0,95239 |
| **dgreedy** | 0,99643 | 0,995685 | 0,993334 | 0,991174 | 0,998329 | 0,992765 | 0,99408 | 0,994266 |
| **ROI** | 0,998583 | 0,992305 | 0,990137 | 0,988121 | 0,994137 | 0,986876 | 0,990644 | 0,994168 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **average SC(S)/SC(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** |
| **CSG** | 1,003724 | 1,017649 | 1,003943 | 1,01015 | 1,004603 | 1,008485 | 1,012795 | 1,017997 |
| **dUSM** | 1,008872 | 1,024079 | 1,002308 | 1,013154 | 1,001454 | 1,010791 | 1,008181 | 1,010797 |
| **dgreedy** | 1,000809 | 1,001392 | 1,000554 | 1,001959 | 1,000119 | 1,001302 | 1,000874 | 1,001298 |
| **ROI** | 1,000327 | 1,002668 | 1,001008 | 1,002719 | 1,000392 | 1,002328 | 1,001376 | 1,001333 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

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| **Worst N column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** |
| **CSG** | 0,95808 | 0,89606 | 0,84076 | 0,91665 | 0,82448 | 0,87515 | 0,875903 | 0,88077 |
| **dUSM** | 0,89946 | 0,83353 | 0,94508 | 0,87846 | 0,96151 | 0,89463 | 0,84333 | 0,88651 |
| **dgreedy** | 0,9706817 | 0,9794 | 0,94432 | 0,97635 | 0,98329 | 0,97383 | 0,98541 | 0,9831 |
| **ROI** | 0,99362082 | 0,97692 | 0,94432 | 0,97635 | 0,9668 | 0,97383 | 0,98097 | 0,9831 |
| **Winner** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

**=MIN(N2:N11)**

**=MAX(Z2:Z11)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Worst Ζ column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** |
| **CSG** | 1,00922 | 1,02885 | 1,01271 | 1,01909 | 1,0117 | 1,03006 | 1,023568 | 1,02936 |
| **dUSM** | 1,01864 | 1,04656 | 1,00548 | 1,03075 | 1,00403 | 1,02258 | 1,01957 | 1,02795 |
| **dgreedy** | 1,0069025 | 1,00564 | 1,00444 | 1,00598 | 1,00119 | 1,00441 | 1,0025 | 1,00404 |
| **ROI** | 1,00132894 | 1,00632 | 1,00444 | 1,00598 | 1,00167 | 1,00441 | 1,0032 | 1,00404 |
| **Winner** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Average percentage of selected workers** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** |
| **CSG** | 0,325 | 0,212 | 0,365 | 0,254 | 0,385 | 0,322 | 0,306 | 0,228 |
| **dUSM** | 0,415 | 0,3 | 0,46 | 0,332 | 0,54 | 0,452 | 0,498 | 0,397 |
| **dgreedy** | 0,355 | 0,252 | 0,42 | 0,308 | 0,485 | 0,392 | 0,458 | 0,352 |
| **ROI** | 0,37 | 0,278 | 0,44 | 0,322 | 0,495 | 0,406 | 0,466 | 0,353 |
| **Winner** | 0,355 | 0,246 | 0,41 | 0,298 | 0,48 | 0,376 | 0,448 | 0,346 |

**Synthetic**

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| **average SW(S)/SW(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** |
| **CSG** | 0,842295 | 0,95962 | 0,9294466 | 0,93051 | 0,92833 | 0,96377 | 0,9755 | 0,97286 | 0,95743 | 0,957428 |
| **dUSM** | 0,96441 | 0,8635 | 0,9188 | 0,95804 | 0,85847 | 0,93464 | 0,93068 | 0,82416 | 0,85124 | 0,87694 |
| **dgreedy** | 0,99224 | 0,99801 | 0,98586 | 0,99309 | 0,98004 | 0,98973 | 0,99453 | 0,99011 | 0,98043 | 0,98573 |
| **ROI** | 0,99313 | 0,98628 | 0,98686 | 0,99217 | 0,97817 | 0,99076 | 0,99422 | 0,97946 | 0,99029 | 0,99005 |
| **Winner** | **1** | **1** | **1** | **1** | **0,99961** | **0,99949** | **0,99907** | **0,99902** | **0,99317** | **0,99605** |

**=AVERAGE(N2:N31)**

**=AVERAGE(Z2:Z31)**

**=MIN(N2:N31)**

**=MAX(Z2:Z31)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **average SC(S)/SC(OPT)\ algorithm** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** |
| **CSG** | 1,076789 | 1,04223 | 1,0895335 | 1,09757 | 1,10177 | 1,09459 | 1,07994 | 1,124 | 1,21331 | 1,213315 |
| **dUSM** | 1,01589 | 1,05031 | 1,11395 | 1,08747 | 1,25261 | 1,26359 | 1,35401 | 1,88153 | 1,95588 | 2,23687 |
| **dgreedy** | 1,00284 | 1,00128 | 1,01979 | 1,00862 | 1,0269 | 1,03214 | 1,02072 | 1,05038 | 1,10492 | 1,1494 |
| **ROI** | 1,00337 | 1,01447 | 1,01945 | 1,01009 | 1,03905 | 1,03698 | 1,03398 | 1,0909 | 1,04861 | 1,07152 |
| **Winner** | **1** | **1** | **1** | **1** | **1,00062** | **1,00406** | **1,00595** | **1,00437** | **1,02679** | **1,02066** |

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| **Worst N column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** |
| **CSG** | 0 | 0,71985 | 0,7608241 | 0,78509 | 0,76295 | 0,80346 | 0,92425 | 0,93109 | 0,88087 | 0,880868 |
| **dUSM** | 0,77091 | 0,61122 | 0,64308 | 0,79778 | 0,6554 | 0,83327 | 0,81131 | 0,67362 | 0,72847 | 0,78796 |
| **dgreedy** | 0,85778 | 0,94236 | 0,84123 | 0,93547 | 0,86815 | 0,93297 | 0,95441 | 0,94794 | 0,90758 | 0,93841 |
| **ROI** | 0,85778 | 0,88726 | 0,84123 | 0,93547 | 0,90591 | 0,93297 | 0,95441 | 0,93932 | 0,94587 | 0,95743 |
| **Winner** | **1** | **1** | **1** | **1** | **0,98833** | **0,98822** | **0,9896** | **0,97681** | **0,9365** | **0,96377** |

**=MIN(N2:N31)**

**=MAX(Z2:Z31)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Worst Ζ column** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** |
| **CSG** | 1,40076 | 1,43833 | 1,3311727 | 1,29939 | 1,3695 | 1,306 | 1,27023 | 1,28479 | 1,53156 | 1,531555 |
| **dUSM** | 1,13909 | 1,20692 | 1,55353 | 1,52494 | 1,65726 | 2,08464 | 2,42017 | 3,41017 | 3,2611 | 5,30774 |
| **dgreedy** | 1,05301 | 1,03831 | 1,28004 | 1,07163 | 1,17813 | 1,16065 | 1,19173 | 1,26952 | 1,44258 | 1,64215 |
| **ROI** | 1,05301 | 1,14194 | 1,28004 | 1,07163 | 1,38317 | 1,27238 | 1,1664 | 1,28772 | **1,19985** | 1,40894 |
| **Winner** | **1** | **1** | **1** | **1** | **1,01861** | **1,10359** | **1,13082** | **1,106** | 1,20074 | **1,12742** |

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| **Average percentage of selected workers** | **dataset\_01** | **02** | **03** | **04** | **05** | **06** | **07** | **08** | **09** | **10** |
| **CSG** | 0,34 | 0,103333 | 0,243333 | 0,34 | 0,12 | 0,241667 | 0,265 | 0,077333 | 0,093333 | 0,109333 |
| **dUSM** | **0,553333** | 0,13 | 0,353333 | 0,496667 | 0,183333 | 0,35 | 0,373333 | 0,122 | 0,154667 | 0,177333 |
| **dgreedy** | **0,5** | 0,136667 | 0,323333 | 0,45 | 0,165 | 0,301667 | 0,318333 | 0,1 | 0,122667 | 0,130667 |
| **ROI** | **0,52** | 0,153333 | 0,33 | 0,456667 | 0,181667 | 0,31 | 0,333333 | 0,113333 | 0,135333 | 0,139333 |
| **Winner** | **0,52** | 0,133333 | 0,313333 | 0,446667 | 0,156667 | 0,288333 | 0,311667 | 0,098667 | 0,124667 | 0,130667 |