Genetic Inputs

We ran 6 inputs of sizes 2000,2000,3000,3500,4000,<u>10000</u> randomly distributed (3 attempts on each one).

Number 1

"size=2000; sum=100607; <mark>avgJob=51</mark>; perfectSplit=20122"

Attempt 1 start

**Best gene got replaced in generation 2. Gene details: Gene id=50 TF=20328, #Machines=5, content:Very long..., Summed Machines(20326,20328,19861,20059,20033)

**Best gene got replaced in generation 3. Gene details: Gene id=78 TF=20301, #Machines=5, content:Very long..., Summed Machines(20301,20267,20298,19827,19914)

**Best gene got replaced in generation 4. Gene details: Gene id=3 TF=20242, #Machines=5, content:Very long..., Summed Machines(20066,20137,20001,20161,20242)

**Best gene got replaced in generation 55. Gene details: Gene id=59 TF=20208, #Machines=5, content:Very long..., Summed Machines(20181,20208,19969,20204,20045)

**Best gene got replaced in generation 59. Gene details: Gene id=90 TF=20198, #Machines=5, content:Very long..., Summed Machines(20132,20036,20077,20198,20164)

**Best gene got replaced in generation 65. Gene details: Gene id=85 TF=20187, #Machines=5, content:Very long..., Summed Machines(20088,20151,20037,20144,20187)

**Best gene got replaced in generation 70. Gene details: Gene id=29 TF=20181, #Machines=5, content:Very long..., Summed Machines(20181,20007,20141,20100,20178)

**Best gene got replaced in generation 87. Gene details: Gene id=32 TF=20177, #Machines=5, content:Very long..., Summed Machines(20066,20134,20177,20160,20070)

**Best gene got replaced in generation 93. Gene details: Gene id=88 TF=20169, #Machines=5, content:Very long..., Summed Machines(20010,20100,20169,20167,20161)

**Best gene got replaced in generation 100. Gene details: Gene id=89 TF=20143, #Machines=5, content:Very long..., Summed Machines(20090,20128,20111,20135,20143)

**END On Gen=100

**Best gene found: Gene id=89 TF=20143, #Machines=5, content:Very long..., Summed Machines(20090,20128,20111,20135,20143)

Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=20143; <mark>DiffFromPerfectSplit=21</mark>

Attempt 2 start

**Best gene got replaced in generation 2. Gene details: Gene id=23 TF=20592, #Machines=5, content:Very long..., Summed Machines(19944,20592,19537,20205,20329)

**Best gene got replaced in generation 2. Gene details: Gene id=37 TF=20540, #Machines=5, content:Very long..., Summed Machines(20100,19714,19723,20530,20540)

**Best gene got replaced in generation 3. Gene details: Gene id=22 TF=20493, #Machines=5, content:Very long..., Summed Machines(20225,20493,20104,20312,19473)

**Best gene got replaced in generation 4. Gene details: Gene id=14 TF=20428, #Machines=5, content:Very long..., Summed Machines(20155,20396,19954,19674,20428)

**Best gene got replaced in generation 4. Gene details: Gene id=36 TF=20412, #Machines=5, content:Very long..., Summed Machines(20406,19778,20142,19869,20412)

**Best gene got replaced in generation 5. Gene details: Gene id=3 TF=20363, #Machines=5, content:Very long..., Summed Machines(20344,19924,20363,20046,19930)

**Best gene got replaced in generation 7. Gene details: Gene id=35 TF=20329, #Machines=5, content:Very long..., Summed Machines(20248,19950,19798,20282,20329)

**Best gene got replaced in generation 18. Gene details: Gene id=22 TF=20278, #Machines=5, content:Very long..., Summed Machines(20004,20090,20201,20034,20278)

**Best gene got replaced in generation 25. Gene details: Gene id=1 TF=20206, #Machines=5, content:Very long..., Summed Machines(20035,20097,20106,20163,20206)

**Best gene got replaced in generation 35. Gene details: Gene id=9 TF=20198, #Machines=5, content:Very long..., Summed Machines(20176,20184,20085,20198,19964)

**Best gene got replaced in generation 59. Gene details: Gene id=1 TF=20192, #Machines=5, content:Very long..., Summed Machines(20095,20192,20047,20143,20130)

**Best gene got replaced in generation 60. Gene details: Gene id=2 TF=20181, #Machines=5, content:Very long..., Summed Machines(20136,20114,20181,20082,20094)

**Best gene got replaced in generation 63. Gene details: Gene id=42 TF=20172, #Machines=5, content:Very long..., Summed Machines(20059,20152,20153,20172,20071)

**Best gene got replaced in generation 66. Gene details: Gene id=21 TF=20166, #Machines=5, content:Very long..., Summed Machines(20158,20062,20082,20139,20166)

**Best gene got replaced in generation 72. Gene details: Gene id=37 TF=20161, #Machines=5, content:Very long..., Summed Machines(20085,20161,20088,20157,20116)

**END On Gen=72

**Best gene found: Gene id=37 TF=20161, #Machines=5, content:Very long..., Summed Machines(20085,20161,20088,20157,20116)

Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=20161; DiffFromPerfectSplit=39

Attempt 3 start

**Best gene got replaced in generation 2. Gene details: Gene id=24 TF=20404, #Machines=5, content:Very long..., Summed Machines(20201,20404,19460,20399,20143)

**Best gene got replaced in generation 2. Gene details: Gene id=35 TF=20380, #Machines=5, content:Very long..., Summed Machines(20380,20264,19627,20082,20254)

**Best gene got replaced in generation 2. Gene details: Gene id=106 TF=20373, #Machines=5, content:Very long..., Summed Machines(19768,20071,20299,20373,20096)

**Best gene got replaced in generation 2. Gene details: Gene id=169 TF=20350, #Machines=5, content:Very long..., Summed Machines(20328,20318,19520,20091,20350)

**Best gene got replaced in generation 3. Gene details: Gene id=97 TF=20334, #Machines=5, content:Very long..., Summed Machines(20163,20204,20026,19880,20334)

**Best gene got replaced in generation 4. Gene details: Gene id=8 TF=20232, #Machines=5, content:Very long..., Summed Machines(20224,19878,20229,20232,20044)

**Best gene got replaced in generation 28. Gene details: Gene id=86 TF=20215, #Machines=5, content:Very long..., Summed Machines(20215,19966,20109,20166,20151)

**Best gene got replaced in generation 29. Gene details: Gene id=147 TF=20207, #Machines=5, content:Very long..., Summed Machines(20137,20207,19883,20198,20182)

**END On Gen=29

**Best gene found: Gene id=147 TF=20207, #Machines=5, content:Very long..., Summed Machines(20137,20207,19883,20198,20182)

Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05;

mutationSize=0.05; TF=20207; DiffFromPerfectSplit=85
"BestGene found on all attempts:Gene id=89 TF=20143, #Machines=5, content:Very long...,
Summed Machines(20090,20128,20111,20135,20143)"
"Total time: 108.849 seconds"

Number 2

"size=2000; sum=101407; <mark>avgJob=51</mark>; perfectSplit=20282"

Attempt 1 start

**Best gene got replaced in generation 2. Gene details: Gene id=1 TF=20769, #Machines=5, content:Very long..., Summed Machines(20769,20717,20226,19426,20269)

**Best gene got replaced in generation 2. Gene details: Gene id=32 TF=20520, #Machines=5, content:Very long..., Summed Machines(20283,20054,20210,20520,20340)

**Best gene got replaced in generation 5. Gene details: Gene id=5 TF=20487, #Machines=5, content:Very long..., Summed Machines(20341,19979,20487,20470,20130)

**Best gene got replaced in generation 6. Gene details: Gene id=44 TF=20375, #Machines=5, content:Very long..., Summed Machines(20334,20280,20288,20130,20375)

**Best gene got replaced in generation 28. Gene details: Gene id=89 TF=20362, #Machines=5, content:Very long..., Summed Machines(20362,20161,20310,20304,20270)

**Best gene got replaced in generation 47. Gene details: Gene id=29 TF=20350, #Machines=5, content:Very long..., Summed Machines(20132,20266,20318,20350,20341)

**Best gene got replaced in generation 86. Gene details: Gene id=6 TF=20335, #Machines=5, content:Very long..., Summed Machines(20335,20162,20292,20316,20302)

**Best gene got replaced in generation 88. Gene details: Gene id=28 TF=20329, #Machines=5, content:Very long..., Summed Machines(20267,20186,20298,20329,20327)

**Best gene got replaced in generation 96. Gene details: Gene id=3 TF=20328, #Machines=5, content:Very long..., Summed Machines(20218,20278,20294,20289,20328)

**END On Gen=96

**Best gene found: Gene id=3 TF=20328, #Machines=5, content:Very long..., Summed Machines(20218,20278,20294,20289,20328)

Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=20328; DiffFromPerfectSplit=46

Attempt 2 start

**Best gene got replaced in generation 5. Gene details: Gene id=34 TF=20552, #Machines=5, content:Very long..., Summed Machines(20050,19781,20507,20517,20552)

**Best gene got replaced in generation 7. Gene details: Gene id=34 TF=20540, #Machines=5, content:Very long..., Summed Machines(19718,20539,20167,20443,20540)

**Best gene got replaced in generation 13. Gene details: Gene id=8 TF=20491, #Machines=5, content:Very long..., Summed Machines(20428,20491,20137,20224,20127)

**Best gene got replaced in generation 13. Gene details: Gene id=16 TF=20477, #Machines=5, content:Very long..., Summed Machines(20358,20477,20400,19955,20217)

**Best gene got replaced in generation 14. Gene details: Gene id=13 TF=20473, #Machines=5, content:Very long..., Summed Machines(20291,20473,20424,19932,20287)

**Best gene got replaced in generation 14. Gene details: Gene id=15 TF=20437, #Machines=5, content:Very long..., Summed Machines(20437,20355,19904,20321,20390)

**Best gene got replaced in generation 24. Gene details: Gene id=1 TF=20394, #Machines=5, content:Very long..., Summed Machines(20278,20115,20351,20269,20394)

**Best gene got replaced in generation 32. Gene details: Gene id=23 TF=20386, #Machines=5, content:Very long..., Summed Machines(20269,20335,20386,20052,20365)

**Best gene got replaced in generation 44. Gene details: Gene id=11 TF=20363, #Machines=5, content:Very long..., Summed Machines(20289,20321,20301,20133,20363)

**Best gene got replaced in generation 51. Gene details: Gene id=14 TF=20353,

#Machines=5, content:Very long..., Summed Machines(20155,20329,20353,20250,20320)
**Best gene got replaced in generation 53. Gene details: Gene id=35 TF=20339,
#Machines=5, content:Very long..., Summed Machines(20242,20339,20303,20244,20279)
**Best gene got replaced in generation 55. Gene details: Gene id=39 TF=20321,
#Machines=5, content:Very long..., Summed Machines(20274,20280,20311,20221,20321)
**Best gene got replaced in generation 64. Gene details: Gene id=37 TF=20306,
#Machines=5, content:Very long..., Summed Machines(20263,20273,20306,20302,20263)
**Best gene got replaced in generation 66. Gene details: Gene id=37 TF=20300,
#Machines=5, content:Very long..., Summed Machines(20300,20283,20274,20265,20285)
**END On Gen=66
**Best gene found: Gene id=37 TF=20300, #Machines=5, content:Very long..., Summed
Machines(20300,20283,20274,20265,20285)
Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05;
mutationSize=0.05; TF=20300; DiffFromPerfectSplit=18
Attempt 3 start
**Best gene got replaced in generation 9. Gene details: Gene id=23 TF=20331,
#Machines=5, content:Very long..., Summed Machines(20331,20326,20273,20217,20260)
**END On Gen=9
**Best gene found: Gene id=23 TF=20331, #Machines=5, content:Very long..., Summed
Machines(20331,20326,20273,20217,20260)
Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05;
mutationSize=0.05; TF=20331; DiffFromPerfectSplit=49
"BestGene found on all attempts:Gene id=37 TF=20300, #Machines=5, content:Very long...,
Summed Machines(20300,20283,20274,20265,20285)"
"Total time: 107.723 seconds"

Number 3

"size=3000; sum=152830; ==avgJob=51==; perfectSplit=30566"

Attempt 1 start

**Best gene got replaced in generation 3. Gene details: Gene id=0 TF=31042, #Machines=5, content:Very long..., Summed Machines(30602,30954,30807,29425,31042)

**Best gene got replaced in generation 3. Gene details: Gene id=20 TF=30898, #Machines=5, content:Very long..., Summed Machines(30898,30763,30788,29963,30418)

**Best gene got replaced in generation 3. Gene details: Gene id=77 TF=30839, #Machines=5, content:Very long..., Summed Machines(30204,30218,30770,30799,30839)

**Best gene got replaced in generation 9. Gene details: Gene id=7 TF=30789, #Machines=5, content:Very long..., Summed Machines(30789,30579,30573,30284,30605)

**Best gene got replaced in generation 14. Gene details: Gene id=8 TF=30764, #Machines=5, content:Very long..., Summed Machines(30574,30764,30634,30268,30590)

**Best gene got replaced in generation 22. Gene details: Gene id=78 TF=30740, #Machines=5, content:Very long..., Summed Machines(30740,30329,30523,30514,30724)

**Best gene got replaced in generation 33. Gene details: Gene id=42 TF=30689, #Machines=5, content:Very long..., Summed Machines(30631,30416,30629,30689,30465)

**Best gene got replaced in generation 38. Gene details: Gene id=63 TF=30659, #Machines=5, content:Very long..., Summed Machines(30659,30464,30607,30482,30618)

**Best gene got replaced in generation 95. Gene details: Gene id=27 TF=30657, #Machines=5, content:Very long..., Summed Machines(30607,30563,30652,30351,30657)

**Best gene got replaced in generation 96. Gene details: Gene id=38 TF=30594, #Machines=5, content:Very long..., Summed Machines(30585,30553,30590,30508,30594)

**END On Gen=96

**Best gene found: Gene id=38 TF=30594, #Machines=5, content:Very long..., Summed Machines(30585,30553,30590,30508,30594)

Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=30594; ==DiffFromPerfectSplit=28==

Attempt 2 start

**Best gene got replaced in generation 2. Gene details: Gene id=22 TF=31130, #Machines=5, content:Very long..., Summed Machines(31130,30957,30794,29639,30310)

**Best gene got replaced in generation 2. Gene details: Gene id=41 TF=31095, #Machines=5, content:Very long..., Summed Machines(31095,30467,30148,30319,30801)

**Best gene got replaced in generation 5. Gene details: Gene id=1 TF=30794, #Machines=5, content:Very long..., Summed Machines(30451,30227,30739,30619,30794)

**Best gene got replaced in generation 10. Gene details: Gene id=6 TF=30780, #Machines=5, content:Very long..., Summed Machines(30232,30607,30740,30780,30471)

**Best gene got replaced in generation 17. Gene details: Gene id=38 TF=30754, #Machines=5, content:Very long..., Summed Machines(30650,30705,30562,30754,30159)

**Best gene got replaced in generation 23. Gene details: Gene id=12 TF=30701, #Machines=5, content:Very long..., Summed Machines(30699,30701,30423,30620,30387)

**Best gene got replaced in generation 36. Gene details: Gene id=40 TF=30660, #Machines=5, content:Very long..., Summed Machines(30485,30533,30492,30660,30660)

**Best gene got replaced in generation 46. Gene details: Gene id=12 TF=30654, #Machines=5, content:Very long..., Summed Machines(30416,30654,30603,30532,30625)

**Best gene got replaced in generation 47. Gene details: Gene id=7 TF=30645,

#Machines=5, content:Very long..., Summed Machines(30645,30585,30534,30464,30602)
**Best gene got replaced in generation 49. Gene details: Gene id=35 TF=30630,
#Machines=5, content:Very long..., Summed Machines(30422,30608,30630,30600,30570)
**END On Gen=49
**Best gene found: Gene id=35 TF=30630, #Machines=5, content:Very long..., Summed Machines(30422,30608,30630,30600,30570)
Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=30630; DiffFromPerfectSplit=64
Attempt 3 start
**Best gene got replaced in generation 2. Gene details: Gene id=38 TF=31059,
#Machines=5, content:Very long..., Summed Machines(30257,30641,30133,30740,31059)
**Best gene got replaced in generation 2. Gene details: Gene id=63 TF=31016,
#Machines=5, content:Very long..., Summed Machines(30896,31016,30891,29883,30144)
**Best gene got replaced in generation 2. Gene details: Gene id=90 TF=30947,
#Machines=5, content:Very long..., Summed Machines(30531,30789,30397,30947,30166)
**Best gene got replaced in generation 5. Gene details: Gene id=13 TF=30885,
#Machines=5, content:Very long..., Summed Machines(30282,30639,30315,30885,30709)
**Best gene got replaced in generation 6. Gene details: Gene id=126 TF=30774,
#Machines=5, content:Very long..., Summed Machines(30589,30270,30555,30642,30774)
**Best gene got replaced in generation 11. Gene details: Gene id=138 TF=30755,
#Machines=5, content:Very long..., Summed Machines(30692,30486,30697,30755,30200)
**Best gene got replaced in generation 26. Gene details: Gene id=69 TF=30717,
#Machines=5, content:Very long..., Summed Machines(30544,30603,30717,30558,30408)
**Best gene got replaced in generation 28. Gene details: Gene id=52 TF=30698,
#Machines=5, content:Very long..., Summed Machines(30289,30698,30559,30673,30611)
**Best gene got replaced in generation 35. Gene details: Gene id=179 TF=30686,
#Machines=5, content:Very long..., Summed Machines(30544,30686,30459,30489,30652)
**Best gene got replaced in generation 45. Gene details: Gene id=35 TF=30685,
#Machines=5, content:Very long..., Summed Machines(30661,30685,30642,30221,30621)
**Best gene got replaced in generation 49. Gene details: Gene id=57 TF=30637,
#Machines=5, content:Very long..., Summed Machines(30591,30563,30506,30533,30637)
**END On Gen=49
**Best gene found: Gene id=57 TF=30637, #Machines=5, content:Very long..., Summed Machines(30591,30563,30506,30533,30637)
Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=30637; DiffFromPerfectSplit=71
"BestGene found on all attempts:Gene id=38 TF=30594, #Machines=5, content:Very long..., Summed Machines(30585,30553,30590,30508,30594)"
"Total time: 132.362 seconds"

Number 4

"size=3500; sum=174550; <mark>avgJob=50</mark>; perfectSplit=34910"

Attempt 1 start
**Best gene got replaced in generation 6. Gene details: Gene id=9 TF=35158, #Machines=5, content:Very long..., Summed Machines(34988,35158,34898,34880,34626)
**Best gene got replaced in generation 7. Gene details: Gene id=88 TF=35045, #Machines=5, content:Very long..., Summed Machines(34979,34925,35045,34585,35016)
**Best gene got replaced in generation 59. Gene details: Gene id=2 TF=34997, #Machines=5, content:Very long..., Summed Machines(34942,34906,34997,34775,34930)
**Best gene got replaced in generation 72. Gene details: Gene id=61 TF=34992, #Machines=5, content:Very long..., Summed Machines(34910,34772,34904,34972,34992)
**END On Gen=72
**Best gene found: Gene id=61 TF=34992, #Machines=5, content:Very long..., Summed Machines(34910,34772,34904,34972,34992)
Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=34992; DiffFromPerfectSplit=82

Attempt 2 start
**Best gene got replaced in generation 4. Gene details: Gene id=22 TF=35264, #Machines=5, content:Very long..., Summed Machines(35264,34248,34907,35046,35085)
**Best gene got replaced in generation 5. Gene details: Gene id=40 TF=35245, #Machines=5, content:Very long..., Summed Machines(35245,34963,35065,35237,34040)
**Best gene got replaced in generation 9. Gene details: Gene id=8 TF=35107, #Machines=5, content:Very long..., Summed Machines(34727,35007,34787,35107,34922)
**Best gene got replaced in generation 27. Gene details: Gene id=12 TF=35079, #Machines=5, content:Very long..., Summed Machines(35057,34480,35004,35079,34930)
**Best gene got replaced in generation 30. Gene details: Gene id=42 TF=35052, #Machines=5, content:Very long..., Summed Machines(34980,35052,35049,34921,34548)
**Best gene got replaced in generation 32. Gene details: Gene id=42 TF=35042, #Machines=5, content:Very long..., Summed Machines(34935,34900,35042,34954,34719)
**Best gene got replaced in generation 37. Gene details: Gene id=29 TF=35029, #Machines=5, content:Very long..., Summed Machines(34980,34935,34710,35029,34896)
**Best gene got replaced in generation 46. Gene details: Gene id=7 TF=35017, #Machines=5, content:Very long..., Summed Machines(34917,34996,34943,35017,34677)
**Best gene got replaced in generation 46. Gene details: Gene id=23 TF=35012, #Machines=5, content:Very long..., Summed Machines(35004,35012,34905,34756,34873)
**Best gene got replaced in generation 47. Gene details: Gene id=8 TF=34973, #Machines=5, content:Very long..., Summed Machines(34903,34971,34968,34973,34735)
**END On Gen=47
**Best gene found: Gene id=8 TF=34973, #Machines=5, content:Very long..., Summed Machines(34903,34971,34968,34973,34735)
Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=34973; <mark>DiffFromPerfectSplit=63</mark>

Attempt 3 start
**Best gene got replaced in generation 2. Gene details: Gene id=169 TF=35114, #Machines=5, content:Very long..., Summed Machines(35103,35114,34348,34993,34992)

**Best gene got replaced in generation 8. Gene details: Gene id=114 TF=35037, #Machines=5, content:Very long..., Summed Machines(34558,34916,35035,35037,35004)
**Best gene got replaced in generation 11. Gene details: Gene id=98 TF=35015, #Machines=5, content:Very long..., Summed Machines(34969,34906,35015,34718,34942)
**Best gene got replaced in generation 27. Gene details: Gene id=122 TF=35002, #Machines=5, content:Very long..., Summed Machines(35002,34966,34819,34781,34982)
**Best gene got replaced in generation 46. Gene details: Gene id=171 TF=34997, #Machines=5, content:Very long..., Summed Machines(34888,34940,34828,34897,34997)
**END On Gen=46
**Best gene found: Gene id=171 TF=34997, #Machines=5, content:Very long..., Summed Machines(34888,34940,34828,34897,34997)
Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=34997; DiffFromPerfectSplit=87

"BestGene found on all attempts:Gene id=8 TF=34973, #Machines=5, content:Very long..., Summed Machines(34903,34971,34968,34973,34735)"
"Total time: 144.029 seconds"

Number 5

"size=4000; sum=201618; <mark>avgJob=51</mark>; perfectSplit=40324"

Attempt 1 start
**Best gene got replaced in generation 3. Gene details: Gene id=32 TF=40846, #Machines=5, content:Very long..., Summed Machines(40406,40554,40846,39867,39945)
**Best gene got replaced in generation 3. Gene details: Gene id=40 TF=40719, #Machines=5, content:Very long..., Summed Machines(40719,40032,40242,40036,40589)
**Best gene got replaced in generation 3. Gene details: Gene id=54 TF=40624, #Machines=5, content:Very long..., Summed Machines(40108,40494,39799,40593,40624)
**Best gene got replaced in generation 5. Gene details: Gene id=58 TF=40529, #Machines=5, content:Very long..., Summed Machines(40408,40100,40529,40345,40236)
**Best gene got replaced in generation 6. Gene details: Gene id=56 TF=40507, #Machines=5, content:Very long..., Summed Machines(40162,40214,40451,40284,40507)
**Best gene got replaced in generation 21. Gene details: Gene id=88 TF=40442, #Machines=5, content:Very long..., Summed Machines(40442,40024,40383,40404,40365)
**Best gene got replaced in generation 82. Gene details: Gene id=78 TF=40408, #Machines=5, content:Very long..., Summed Machines(40408,40236,40370,40384,40220)
**Best gene got replaced in generation 84. Gene details: Gene id=61 TF=40394, #Machines=5, content:Very long..., Summed Machines(40192,40394,40334,40315,40383)
**END On Gen=84
**Best gene found: Gene id=61 TF=40394, #Machines=5, content:Very long..., Summed Machines(40192,40394,40334,40315,40383)
Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=40394; DiffFromPerfectSplit=70

Attempt 2 start
**Best gene got replaced in generation 2. Gene details: Gene id=26 TF=40504, #Machines=5, content:Very long..., Summed Machines(40504,40475,39919,40368,40352)
**Best gene got replaced in generation 28. Gene details: Gene id=35 TF=40474, #Machines=5, content:Very long..., Summed Machines(40179,40370,40243,40352,40474)
**Best gene got replaced in generation 34. Gene details: Gene id=7 TF=40450, #Machines=5, content:Very long..., Summed Machines(40450,40321,40213,40320,40314)
**Best gene got replaced in generation 40. Gene details: Gene id=28 TF=40419, #Machines=5, content:Very long..., Summed Machines(40419,40283,40333,40300,40283)
**Best gene got replaced in generation 52. Gene details: Gene id=10 TF=40391, #Machines=5, content:Very long..., Summed Machines(40275,40214,40391,40389,40349)
**Best gene got replaced in generation 63. Gene details: Gene id=11 TF=40347, #Machines=5, content:Very long..., Summed Machines(40314,40328,40347,40289,40340)
**END On Gen=63
**Best gene found: Gene id=11 TF=40347, #Machines=5, content:Very long..., Summed Machines(40314,40328,40347,40289,40340)
Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=40347; <mark>DiffFromPerfectSplit=23</mark>

Attempt 3 start
**Best gene got replaced in generation 2. Gene details: Gene id=19 TF=40671, #Machines=5, content:Very long..., Summed Machines(40210,40671,40014,40457,40266)

**Best gene got replaced in generation 3. Gene details: Gene id=77 TF=40635, #Machines=5, content:Very long..., Summed Machines(40136,40449,40635,39951,40447)
**Best gene got replaced in generation 5. Gene details: Gene id=113 TF=40588, #Machines=5, content:Very long..., Summed Machines(40584,40455,40588,39505,40486)
**Best gene got replaced in generation 5. Gene details: Gene id=166 TF=40512, #Machines=5, content:Very long..., Summed Machines(40503,40338,40048,40217,40512)
**Best gene got replaced in generation 17. Gene details: Gene id=87 TF=40504, #Machines=5, content:Very long..., Summed Machines(40435,40490,40504,40012,40177)
**Best gene got replaced in generation 21. Gene details: Gene id=157 TF=40477, #Machines=5, content:Very long..., Summed Machines(40278,40477,40261,40334,40268)
**Best gene got replaced in generation 22. Gene details: Gene id=108 TF=40430, #Machines=5, content:Very long..., Summed Machines(40362,40392,40251,40430,40183)
**END On Gen=22
**Best gene found: Gene id=108 TF=40430, #Machines=5, content:Very long..., Summed Machines(40362,40392,40251,40430,40183)
Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=40430; DiffFromPerfectSplit=106

"BestGene found on all attempts:Gene id=11 TF=40347, #Machines=5, content:Very long..., Summed Machines(40314,40328,40347,40289,40340)"
"Total time: 155.238 seconds"

Number 6

"size=10000; sum=509918; <mark style="background:lime">avgJob=51</mark>; perfectSplit=101984"

Attempt 1 start
**Best gene got replaced in generation 2. Gene details: Gene id=24 TF=102592, #Machines=5, content:Very long..., Summed Machines(102256,101885,102243,100942,102592)
**Best gene got replaced in generation 3. Gene details: Gene id=30 TF=102423, #Machines=5, content:Very long..., Summed Machines(101428,101433,102423,102406,102228)
**Best gene got replaced in generation 15. Gene details: Gene id=91 TF=102261, #Machines=5, content:Very long..., Summed Machines(102207,101616,101993,101841,102261)
**Best gene got replaced in generation 17. Gene details: Gene id=92 TF=102175, #Machines=5, content:Very long..., Summed Machines(102123,101841,101956,102175,101823)
**Best gene got replaced in generation 47. Gene details: Gene id=5 TF=102143, #Machines=5, content:Very long..., Summed Machines(102133,102126,102143,101998,101518)
**Best gene got replaced in generation 63. Gene details: Gene id=17 TF=102089, #Machines=5, content:Very long..., Summed Machines(101894,101949,101916,102089,102070)
**Best gene got replaced in generation 97. Gene details: Gene id=62 TF=102084, #Machines=5, content:Very long..., Summed Machines(102081,102008,102084,101809,101936)
**END On Gen=97
**Best gene found: Gene id=62 TF=102084, #Machines=5, content:Very long..., Summed Machines(102081,102008,102084,101809,101936)
Attempt 1: popSize=100; gensNum=100; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=102084; <mark style="background:yellow">DiffFromPerfectSplit=100</mark>

Attempt 2 start
**Best gene got replaced in generation 2. Gene details: Gene id=28 TF=102710, #Machines=5, content:Very long..., Summed Machines(102339,101956,100627,102710,102286)
**Best gene got replaced in generation 6. Gene details: Gene id=23 TF=102592, #Machines=5, content:Very long..., Summed Machines(102592,100447,102289,102214,102376)
**Best gene got replaced in generation 7. Gene details: Gene id=33 TF=102580, #Machines=5, content:Very long..., Summed Machines(102580,101063,102341,101869,102065)
**Best gene got replaced in generation 8. Gene details: Gene id=14 TF=102508, #Machines=5, content:Very long..., Summed Machines(101526,101849,102368,102508,101667)
**Best gene got replaced in generation 17. Gene details: Gene id=8 TF=102360, #Machines=5, content:Very long..., Summed Machines(102332,101807,101714,102360,101705)

**Best gene got replaced in generation 20. Gene details: Gene id=1 TF=102254, #Machines=5, content:Very long..., Summed Machines(102254,102245,102054,101229,102136)
**Best gene got replaced in generation 40. Gene details: Gene id=44 TF=102231, #Machines=5, content:Very long..., Summed Machines(101994,102231,102009,102128,101556)
**Best gene got replaced in generation 44. Gene details: Gene id=4 TF=102149, #Machines=5, content:Very long..., Summed Machines(102087,102048,101735,102149,101899)
**Best gene got replaced in generation 44. Gene details: Gene id=33 TF=102140, #Machines=5, content:Very long..., Summed Machines(102039,101904,102140,101937,101898)
**Best gene got replaced in generation 56. Gene details: Gene id=17 TF=102109, #Machines=5, content:Very long..., Summed Machines(102102,102109,101671,102090,101946)
**Best gene got replaced in generation 61. Gene details: Gene id=36 TF=102103, #Machines=5, content:Very long..., Summed Machines(102103,102054,101944,101729,102088)
**Best gene got replaced in generation 62. Gene details: Gene id=2 TF=102093, #Machines=5, content:Very long..., Summed Machines(101997,102093,101963,101917,101948)
**END On Gen=62
**Best gene found: Gene id=2 TF=102093, #Machines=5, content:Very long..., Summed Machines(101997,102093,101963,101917,101948)
Attempt 2: popSize=50; gensNum=200; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=102093; DiffFromPerfectSplit=109

Attempt 3 start
**Best gene got replaced in generation 2. Gene details: Gene id=63 TF=102505, #Machines=5, content:Very long..., Summed Machines(102505,102298,101743,102197,101175)
**Best gene got replaced in generation 3. Gene details: Gene id=52 TF=102278, #Machines=5, content:Very long..., Summed Machines(101976,102278,101580,102009,102075)
**Best gene got replaced in generation 10. Gene details: Gene id=69 TF=102103, #Machines=5, content:Very long..., Summed Machines(102058,102103,102063,101627,102067)
**Best gene got replaced in generation 30. Gene details: Gene id=133 TF=102101, #Machines=5, content:Very long..., Summed Machines(102025,102101,102014,101794,101984)
**END On Gen=30
**Best gene found: Gene id=133 TF=102101, #Machines=5, content:Very long..., Summed Machines(102025,102101,102014,101794,101984)
Attempt 3: popSize=200; gensNum=50; fintnessVersion=diffFromU; mutationPercet=0.05; mutationSize=0.05; TF=102101; DiffFromPerfectSplit=117

"BestGene found on all attempts:Gene id=62 TF=102084, #Machines=5, content:Very long..., Summed Machines(102081,102008,102084,101809,101936)"
"Total time: 297.748 seconds"