

Test 1: 10*10

Data

Machine: 10

Jobs: 10

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89)],

Job0

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21)],

Job1

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (0, 40), (8, 34), (2, 48), (7, 80), (5, 71)],

#job2

[(1, 91), (2, 17), (7, 62), (5, 75), (8, 47), (4, 11), (3, 7), (6, 72), (9, 35), (0, 55)],

#job3

[(6, 71), (1, 90), (3, 75), (0, 64), (2, 94), (8, 15), (4, 12), (7, 67), (9, 20), (5, 50)],

#job4

[(7, 70), (5, 93), (8, 77), (2, 29), (4, 58), (6, 93), (3, 68), (1, 57), (9, 7), (0, 52)],

#job5

[(6, 87), (1, 63), (4, 26), (5, 6), (2, 82), (3, 27), (7, 56), (8, 48), (9, 36), (0, 95)],

#job6

[(0, 36), (5, 15), (8, 41), (9, 78), (3, 76), (6, 84), (4, 30), (7, 76), (2, 36), (1, 8)],

#job7

[(5, 88), (2, 81), (3, 13), (6, 82), (4, 54), (7, 13), (8, 29), (9, 40), (1, 78), (0, 75)],

#job8

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (2, 6), (8, 54), (5, 82), (3, 6), (1, 26)]

#job9

Result of google:

```
Optimal Schedule Length: 842
Machine 0: job_7_0  job_9_4  job_0_4  job_1_4  job_4_3  job_2_5  job_3_9  job_8_9  job_6_9  job_5_9
           [8,44]   [255,307] [308,317] [317,394] [394,458] [495,535] [557,612] [612,687] [689,784] [789,841]
Machine 1: job_3_0  job_1_2  job_4_1  job_6_1  job_2_4  job_8_8  job_0_8  job_5_7  job_9_9  job_7_9
           [0,91]   [91,178] [178,268] [268,331] [446,495] [514,592] [653,711] [711,768] [788,814] [829,837]
Machine 2: job_0_0  job_3_1  job_8_1  job_9_5  job_5_3  job_6_4  job_4_4  job_1_6  job_2_7  job_7_8
           [0,44]   [91,108] [108,189] [307,313] [331,360] [363,445] [458,552] [562,643] [643,691] [782,818]
Machine 3: job_0_1  job_8_2  job_7_4  job_4_2  job_2_3  job_3_6  job_6_5  job_1_5  job_5_6  job_9_8
           [44,49] [189,202] [222,298] [298,373] [373,443] [443,450] [450,477] [477,562] [615,683] [782,788]
Machine 4: job_1_0  job_9_1  job_0_3  job_6_2  job_2_2  job_8_4  job_3_5  job_7_6  job_5_4  job_4_6
           [0,15]   [93,147] [161,258] [331,357] [357,367] [367,421] [421,432] [432,462] [462,520] [594,606]
Machine 5: job_8_0  job_7_1  job_0_2  job_5_1  job_3_3  job_6_3  job_9_7  job_1_7  job_4_9  job_2_9
           [0,88]   [88,103] [103,161] [161,254] [254,329] [357,363] [432,514] [643,682] [709,759] [771,842]
Machine 6: job_4_0  job_6_0  job_9_2  job_8_3  job_2_1  job_7_5  job_3_7  job_5_5  job_0_9  job_1_9
           [1,72]   [72,159] [159,223] [223,305] [305,327] [327,411] [450,522] [522,615] [711,800] [800,821]
Machine 7: job_1_1  job_5_0  job_3_2  job_9_3  job_0_5  job_8_5  job_7_7  job_6_6  job_4_7  job_2_8
           [15,46] [46,116] [117,179] [223,255] [337,421] [421,434] [462,538] [538,594] [606,673] [691,771]
Machine 8: job_7_2  job_1_3  job_5_2  job_3_4  job_9_6  job_8_6  job_0_6  job_2_6  job_4_5  job_6_7
           [103,144] [178,235] [254,331] [331,378] [378,432] [439,468] [468,545] [545,579] [579,594] [594,642]
Machine 9: job_9_0  job_7_3  job_2_0  job_8_7  job_3_8  job_0_7  job_6_8  job_4_8  job_1_8  job_5_8
           [0,88]   [144,222] [222,304] [469,509] [522,557] [557,653] [653,689] [689,709] [709,782] [782,789]
```

Time used: 1.1636631488800049

Time used :1.164

Result of ours:

```
machines used :
0
1
2
3
4
5
6
7
8
9

-----
time schedule= 0 :
7      3      0      .      1      8      4      .      .      9
time schedule= 1 :
7      3      0      .      1      8      4      .      .      9
time schedule= 2 :
7      3      0      .      1      8      4      .      .      9
time schedule= 3 :
7      3      0      .      1      8      4      .      .      9
```

```
time schedule=833 :
5      .      .      .      2      .      .      .      .
time schedule=834 :
5      .      .      .      2      .      .      .      .
time schedule=835 :
5      .      .      .      2      .      .      .      .
time schedule=836 :
5      .      .      .      2      .      .      .      .
time schedule=837 :
5      .      .      .      2      .      .      .      .
time schedule=838 :
5      .      .      .      2      .      .      .      .
time schedule=839 :
5      .      .      .      2      .      .      .      .
time schedule=840 :
5      .      .      .      2      .      .      .      .
time schedule=841 :
.      .      .      .      2      .      .      .      .
Time used: 2.820807933807373
```

Time used: 2.8208

Test 2:8*8

Data:

Machine:8

Jobs: 8

jobs.append([(2, 44), (3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (0, 77), (1, 96)])

jobs.append([(4, 15), (7, 31), (1, 87), (6, 57), (0, 77), (3, 85), (2, 81), (5, 39)])

jobs.append([(5, 82), (6, 22), (4, 10), (3, 70), (1, 49), (0, 40), (7, 34), (2, 48)])

jobs.append([(1, 91), (2, 17), (7, 62), (5, 75), (0, 47), (4, 11), (3, 7), (6, 72)])

jobs.append([(6, 71), (1, 90), (3, 75), (0, 64), (2, 94), (5, 15), (4, 12), (7, 67)])

jobs.append([(7, 70), (5, 93), (0, 77), (2, 29), (4, 58), (6, 93), (3, 68), (1, 57)])

jobs.append([(6, 87), (1, 63), (4, 26), (5, 6), (2, 82), (3, 27), (7, 56), (0, 48)])

jobs.append([(0, 36), (5, 15), (1, 41), (2, 78), (3, 76), (6, 84), (4, 30), (7, 76)])

Result of google:

Optimal Schedule Length: 713

Machine 0:	job_7_0 [8,44]	job_5_2 [190,267]	job_4_3 [267,331]	job_0_4 [345,354]	job_1_4 [366,443]	job_2_5 [443,483]	job_0_6 [483,560]	job_3_4 [560,607]	job_6_7 [664,712]
Machine 1:	job_3_0 [0,91]	job_4_1 [91,181]	job_7_2 [181,222]	job_1_2 [222,309]	job_6_1 [309,372]	job_2_4 [372,421]	job_0_7 [560,656]	job_5_7 [656,713]	
Machine 2:	job_0_0 [0,44]	job_3_1 [92,109]	job_7_3 [222,300]	job_5_3 [300,329]	job_4_4 [331,425]	job_6_4 [425,507]	job_1_6 [566,647]	job_2_7 [663,711]	
Machine 3:	job_0_1 [44,49]	job_2_3 [114,184]	job_4_2 [184,259]	job_7_4 [300,376]	job_1_5 [451,536]	job_6_5 [536,563]	job_5_6 [563,631]	job_3_6 [631,638]	
Machine 4:	job_1_0 [0,15]	job_2_2 [104,114]	job_0_3 [248,345]	job_6_2 [372,398]	job_5_4 [398,456]	job_4_6 [456,468]	job_7_6 [468,498]	job_3_5 [607,618]	
Machine 5:	job_2_0 [0,82]	job_7_1 [82,97]	job_5_1 [97,190]	job_0_2 [190,248]	job_3_3 [248,323]	job_6_3 [398,404]	job_4_5 [425,440]	job_1_7 [670,709]	
Machine 6:	job_4_0 [2,73]	job_2_1 [82,104]	job_6_0 [104,191]	job_1_3 [309,366]	job_7_5 [376,460]	job_5_5 [460,553]	job_3_7 [638,710]		
Machine 7:	job_5_0 [0,70]	job_1_1 [70,101]	job_3_2 [117,179]	job_0_5 [354,438]	job_4_7 [468,535]	job_2_6 [535,569]	job_6_6 [572,628]	job_7_7 [628,704]	

Time used: 0.14772677421569824

Time used: 0.1477

Result of ours:

```
machines used :
0
1
2
3
4
5
6
7

-----
time schedule= 0 :
7 3 0 . . 2 4 5
time schedule= 1 :
7 3 0 . . 2 4 5
time schedule= 2 :
7 3 0 . . 2 4 5
time schedule= 3 :
7 3 0 . . 2 4 5
time schedule= 4 :
```

```
time schedule=704 :
. 5 . . . 3 7
time schedule=705 :
. 5 . . . 3 7
time schedule=706 :
. 5 . . . 3 7
time schedule=707 :
. 5 . . . 3 7
time schedule=708 :
. 5 . . . 3 7
time schedule=709 :
. 5 . . . . 7
time schedule=710 :
. 5 . . . . 7
time schedule=711 :
. 5 . . . . 7
time schedule=712 :
. 5 . . . . 7
Time used: 1.1771149635314941
```

Time used: 1.177

Test3:6*6:

Data

Machine:6

Jobs: 6

```
jobs.append([(4, 15), (5, 31), (1, 87), (2, 57), (0, 77), (3, 85)])
```

```
jobs.append([(5, 82), (2, 22), (4, 10), (3, 70), (1, 49), (0, 40)])
```

```
jobs.append([(1, 91), (2, 17), (3, 62), (5, 75), (0, 47), (4, 11)])
```

```
jobs.append([(4, 71), (1, 90), (3, 75), (0, 64), (2, 94), (5, 15)])
```

```
jobs.append([(1, 70), (5, 93), (0, 77), (2, 29), (4, 58), (3, 93)])
```

```
jobs.append([(0, 87), (1, 63), (4, 26), (5, 6), (2, 82), (3, 27)])
```

Google :

Optimal Schedule Length: 598

Machine 0:	job_5_0 [8,95]	job_4_2 [210,287]	job_3_3 [326,390]	job_0_4 [395,472]	job_1_5 [497,537]	job_2_4 [538,585]
Machine 1:	job_4_0 [0,70]	job_2_0 [70,161]	job_3_1 [161,251]	job_0_2 [251,338]	job_5_1 [339,402]	job_1_4 [423,472]
Machine 2:	job_1_1 [82,104]	job_2_1 [269,286]	job_4_3 [300,329]	job_0_3 [338,395]	job_3_4 [395,489]	job_5_4 [489,571]
Machine 3:	job_1_3 [114,184]	job_3_2 [251,326]	job_2_2 [326,388]	job_4_5 [388,481]	job_0_5 [481,566]	job_5_5 [571,598]
Machine 4:	job_3_0 [0,71]	job_0_0 [71,86]	job_1_2 [104,114]	job_4_4 [329,387]	job_5_2 [402,428]	job_2_5 [586,597]
Machine 5:	job_1_0 [0,82]	job_0_1 [86,117]	job_4_1 [117,210]	job_5_3 [428,434]	job_2_3 [435,510]	job_3_5 [570,585]

Time used: 0.030234098434448242

Time used: 0.0302

Ours :

```
machines used :
0
1
2
3
4
5

-----
time schedule= 0 :
5      4      .      .      0      1
time schedule= 1 :
5      4      .      .      0      1
time schedule= 2 :
5      4      .      .      0      1
time schedule= 3 :
5      4      .      .      0      1
time schedule= 4 :
5      4      .      .      0      1
time schedule= 5 :
```

In []: 1

```
time schedule=589 :
.      .      .      .      .      .
time schedule=590 :
.      .      .      .      .      .
time schedule=591 :
.      .      .      .      .      .
time schedule=592 :
.      .      .      .      .      .
time schedule=593 :
.      .      .      .      .      .
time schedule=594 :
.      .      .      .      .      .
time schedule=595 :
.      .      .      .      .      .
time schedule=596 :
.      .      .      .      .      .
time schedule=597 :
.      .      .      .      .      .
Time used: 0.63919997215271
```

In []: 1

Time used: 0.6392

Test 4: 20*20:

Data

Machine: 20

Jobs: 20

0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19.

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job0

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job1

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71),(10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job2

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job3

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job4

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71),(10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job5

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job6

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job7

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71),(10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job8

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job9

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job10

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71), (10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job11

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job12

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job13

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71), (10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job14

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job15

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job16

[(9, 82), (6, 22), (4, 10), (3, 70), (1, 49), (17, 40), (16, 34), (2, 48), (7, 80), (5, 71), (10, 91), (11, 17), (15, 62), (16, 75), (19, 47), (18, 11), (8, 7), (6, 72), (9, 35), (0,55)], #job17

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (7, 84), (8, 77), (9, 96), (1, 58), (6,89),(9,15),(10, 31),(11, 87),(14, 57), (13, 77), (16, 85),(18, 81), (17, 39), (12, 73), (19, 21)], # Job18

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (5, 39), (9, 73), (6, 21), (9, 82), (10, 22), (11, 10), (19, 70), (17, 49), (18, 40), (12, 34), (15, 48), (14, 80), (16, 71)], # Job19

Google result:

```
Optimal Schedule Length: 2860
Machine 0: job_9_4 job_1_4 job_3_4 job_4_4 job_12_4 job_7_4 job_0_4 job_18_4 job_19_4 job_15_4 job_6_4
4 job_10_4 job_16_4 job_13_4 job_11_19 job_5_19 job_14_19 job_2_19 job_20_19 job_8_19 job_17_19
[211,220] [221,298] [318,327] [327,404] [415,424] [540,617] [617,626] [646,655] [719,796] [796,805] [943,9
52] [952,1029] [1063,1140] [1177,1254] [2475,2530] [2530,2585] [2585,2640] [2640,2695] [2695,2750] [2750,2805] [2805,2860]
Machine 1: job_1_2 job_4_2 job_7_2 job_20_4 job_10_2 job_19_2 job_5_4 job_2_4 job_12_8 job_11_4 job_16
_2 job_14_4 job_13_2 job_3_8 job_8_4 job_15_8 job_9_8 job_0_8 job_6_8 job_18_8 job_17_4
[46,133] [133,220] [220,307] [307,356] [356,443] [443,530] [559,608] [629,678] [685,743] [746,795] [795,8
82] [882,931] [931,1018] [1018,1076] [1076,1125] [1125,1183] [1274,1332] [1555,1613] [1734,1792] [1844,1902] [1902,1951]
Machine 2: job_9_0 job_3_0 job_18_0 job_0_0 job_12_0 job_6_0 job_15_0 job_20_7 job_1_6 job_4_6 job_5_
7 job_2_7 job_7_6 job_11_7 job_19_6 job_14_7 job_10_6 job_8_7 job_16_6 job_13_6 job_17_7
[0,44] [44,88] [88,132] [132,176] [176,220] [220,264] [264,308] [430,478] [479,560] [561,642] [682,7
30] [752,800] [800,881] [881,929] [933,1014] [1019,1067] [1161,1242] [1274,1322] [1322,1403] [1403,1484] [2043,2091]
Machine 3: job_9_1 job_3_1 job_18_1 job_20_3 job_0_1 job_12_1 job_11_3 job_1_5 job_6_1 job_15_1 job_4_
5 job_5_3 job_2_3 job_7_5 job_14_3 job_19_5 job_8_3 job_10_5 job_16_5 job_13_5 job_17_3
[44,49] [88,93] [132,137] [137,207] [207,212] [220,225] [225,295] [298,383] [383,388] [388,393] [404,4
89] [489,559] [559,629] [693,778] [778,848] [848,933] [1006,1076] [1076,1161] [1161,1198] [1283,1368] [1368,1774] [1774,1844]
```

```
9] [2329,2414] [2414,2489] [2491,2576] [2576,2647] [2647,2718] [2718,2789] [2789,2860]
Machine 17: job_20_5 job_5_5 job_2_5 job_11_5 job_14_5 job_8_5 job_7_14 job_4_14 job_19_14 job_12_17 job_1
7_5 job_3_17 job_1_14 job_15_17 job_0_17 job_16_14 job_6_17 job_13_14 job_10_14 job_18_17 job_9_17
[356,396] [608,648] [678,718] [795,835] [931,971] [1165,1205] [1371,1420] [1544,1593] [1739,1788] [1909,1948]
[1951,1991] [2080,2119] [2130,2179] [2179,2218] [2218,2257] [2286,2335] [2400,2439] [2456,2505] [2538,2587] [2587,2626] [2724,2
763]
Machine 18: job_7_15 job_11_15 job_2_15 job_4_15 job_19_15 job_12_16 job_3_16 job_5_15 job_8_15 job_14_15 job_1
5_16 job_0_16 job_1_15 job_6_16 job_16_15 job_20_15 job_18_16 job_13_15 job_10_15 job_17_15 job_9_16
[1420,1460] [1527,1538] [1567,1578] [1593,1633] [1788,1828] [1828,1909] [1909,1990] [1990,2001] [2001,2012] [2020,2
031] [2031,2112] [2113,2194] [2194,2234] [2270,2351] [2351,2391] [2395,2406] [2422,2503] [2505,2545] [2587,2627] [2632,2643] [26
43,2724]
Machine 19: job_5_14 job_7_13 job_11_14 job_2_14 job_4_13 job_19_13 job_8_14 job_14_14 job_1_13 job_16_13 job_2
0_14 job_13_13 job_10_13 job_15_19 job_17_14 job_6_19 job_0_19 job_3_19 job_12_19 job_18_19 job_9_19
[1254,1301] [1301,1371] [1373,1420] [1424,1471] [1474,1544] [1669,1739] [1926,1973] [1973,2020] [2060,2130] [2216,2
286] [2286,2333] [2386,2456] [2468,2538] [2544,2565] [2585,2632] [2698,2719] [2720,2741] [2755,2776] [2776,2797] [2799,2820] [28
36,2857]

Time used: 93.17073011398315
```

Time used: 93.17

Test 5: 15*15

Data:

Machine: 15

Jobs: 15

(10,3),(14,32),(12,20),(13,8),(11,6)

[(2,44),(3, 5), (5, 58), (4, 97), (0, 9), (10,3),(14,32),(12,20),(13,8),(11,6),(7, 84), (8, 77), (9, 96), (1, 58), (6,89)], # Job0

[(4,15),(7, 31),(1, 87),(8, 57), (0, 77), (3, 85),(2, 81), (10,3),(14,32),(12,20),(13,8),(11,6),(5, 39), (9, 73), (6, 21)], # Job1

[(9, 82), (10,3),(14,32),(12,20),(13,8),(11,6), (6, 22), (4, 10), (3, 70), (1, 49), (0, 40), (8, 34), (2, 48), (7, 80), (5, 71)], #job2

[(1, 91), (2, 17), (7, 62), (5, 75), (8, 47), (4, 11), (3, 7), (6, 72), (9, 35), (0, 55),(10,3),(14,32),(12,20),(13,8),(11,6)], #job3

[(6, 71), (1, 90), (3, 75), (0, 64), (2, 94), (10,3),(14,32),(12,20),(13,8),(11,6),(8, 15), (4, 12), (7, 67), (9, 20), (5, 50)], #job4

[(7, 70), (5, 93), (8, 77), (2, 29), (4, 58), (6, 93), (10,3),(14,32),(12,20),(13,8),(11,6),(3, 68), (1, 57), (9, 7), (0, 52)], #job5

[(6, 87), (1, 63), (10,3),(14,32),(12,20),(13,8),(11,6),(4, 26), (5, 6), (2, 82), (3, 27), (7, 56), (8, 48), (9, 36), (0, 95)], #job6

[(0, 36), (5, 15), (10,3),(14,32),(12,20),(13,8),(11,6),(8, 41), (9, 78), (3, 76), (6, 84), (4, 30), (7, 76), (2, 36), (1, 8)], #job7

[(5, 88), (2, 81), (3, 13), (6, 82), (4, 54), (7, 13), (8, 29), (9, 40), (1, 78), (10,3),(14,32),(12,20),(13,8),(11,6),(0, 75)], #job8

[(9, 88), (4, 54), (10,3),(14,32),(12,20),(13,8),(11,6), (6, 64), (7, 32), (0, 52), (2, 6), (8, 54), (5, 82), (3, 6), (1, 26)] #job9

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (2, 6), (8, 54), (10,3),(14,32),(12,20),(13,8),(11,6), (5, 82), (3, 6), (1, 26)] #job10

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (10,3),(14,32),(12,20),(13,8),(11,6), (2, 6), (8, 54), (5, 82), (3, 6), (1, 26)] #job11

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (10,3),(14,32),(12,20),(13,8),(11,6),(2, 6), (8, 54), (5, 82), (3, 6), (1, 26)] #job12

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (2, 6), (8, 54), (10,3),(14,32),(12,20),(13,8),(11,6), (5, 82), (3, 6), (1, 26)] #job13

[(9, 88), (4, 54), (6, 64), (7, 32), (0, 52), (2, 6), (8, 54), (10,3),(14,32),(12,20),(13,8),(11,6),(5, 82), (3, 6), (1, 26)] #job14

Google result:

```
Optimal Schedule Length: 1132
Machine 0: job_7_0 job_1_4 job_13_4 job_0_4 job_10_4 job_14_4 job_4_3 job_12_4 job_2_10 job_11_4 job_8_
14 job_9_9 job_3_9 job_6_14 job_5_14
[8,44] [190,267] [267,319] [321,330] [402,454] [466,518] [518,582] [584,636] [636,676] [706,758] [799,8
74] [874,926] [928,983] [983,1078] [1078,1130]
Machine 1: job_1_2 job_3_0 job_6_1 job_4_1 job_2_9 job_8_8 job_13_14 job_12_14 job_0_13 job_10_14 job_5_
12 job_14_14 job_11_14 job_9_14 job_7_14
[46,133] [133,224] [224,287] [287,377] [579,628] [652,730] [850,876] [876,902] [902,960] [963,989] [989,1
046] [1046,1072] [1072,1098] [1098,1124] [1124,1132]
Machine 2: job_0_0 job_8_1 job_3_1 job_13_5 job_1_6 job_10_5 job_5_3 job_14_5 job_6_9 job_4_4 job_12
_10 job_2_12 job_11_10 job_9_10 job_7_13
[0,44] [91,172] [228,245] [319,325] [386,467] [467,473] [473,502] [518,524] [524,606] [606,700] [705,7
11] [711,759] [855,861] [926,932] [1088,1124]
Machine 3: job_0_1 job_8_2 job_1_5 job_4_2 job_3_6 job_2_8 job_6_10 job_7_9 job_10_13 job_13_13 job_12
_13 job_5_11 job_14_13 job_11_13 job_9_13
[44,49] [172,185] [293,378] [378,453] [500,507] [509,579] [623,650] [748,824] [824,830] [830,836] [847,8
53] [918,986] [1000,1006] [1030,1036] [1090,1096]
Machine 4: job_1_0 job_13_1 job_0_3 job_10_1 job_14_1 job_8_4 job_6_7 job_12_1 job_3_5 job_2_7 job_11
_1 job_5_4 job_9_1 job_4_11 job_7_11
[0,15] [88,142] [148,245] [245,299] [299,353] [353,407] [407,433] [434,488] [488,499] [499,509] [522,5
76] [576,634] [634,688] [933,945] [977,1007]
Machine 5: job_8_0 job_0_2 job_7_1 job_5_1 job_3_3 job_6_8 job_13_12 job_1_12 job_10_12 job_14_12 job_12
_12 job_2_14 job_11_12 job_9_12 job_4_14
[0,88] [88,146] [146,161] [162,255] [323,398] [433,439] [471,553] [557,596] [601,683] [683,765] [765,8
05] [730,733] [750,753] [771,774] [983,986]
Machine 11: job_7_6 job_6_6 job_0_9 job_2_5 job_13_11 job_1_11 job_10_11 job_14_11 job_12_9 job_9_6 job_8
_13 job_11_9 job_4_9 job_5_10 job_3_14
[224,230] [350,356] [393,399] [425,431] [465,471] [551,557] [595,601] [675,681] [699,705] [751,757] [793,7
99] [849,855] [880,886] [912,918] [1046,1052]
Machine 12: job_7_4 job_6_4 job_0_7 job_2_3 job_13_9 job_1_9 job_10_9 job_14_9 job_12_7 job_9_4 job_8
_11 job_11_7 job_4_7 job_5_8 job_3_12
[196,216] [322,342] [365,385] [397,417] [437,457] [523,543] [567,587] [647,667] [671,691] [723,743] [765,7
85] [821,841] [852,872] [884,904] [1018,1038]
Machine 13: job_7_5 job_6_5 job_0_8 job_2_4 job_13_10 job_1_10 job_10_10 job_14_10 job_12_8 job_9_5 job_8
_12 job_11_8 job_4_8 job_5_9 job_3_13
[216,224] [342,350] [385,393] [417,425] [457,465] [543,551] [587,595] [667,675] [691,699] [743,751] [785,7
93] [841,849] [872,880] [904,912] [1038,1046]
Machine 14: job_7_3 job_6_3 job_0_6 job_2_2 job_13_8 job_1_8 job_10_8 job_14_8 job_12_6 job_9_3 job_8
_10 job_11_6 job_4_6 job_5_7 job_3_11
[164,196] [290,322] [333,365] [365,397] [405,437] [484,516] [535,567] [589,621] [639,671] [691,723] [733,7
65] [785,817] [820,852] [852,884] [986,1018]

Time used: 41.512967348098755
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Time used: 41.51