10>K דו"ח 1 - חיפוש לוקאלי עבור

(אינקס 152 – קלט קטן על מנת שיהיה יותר קל לקרוא) אינקס -152

:BNB הניב את זה

61~62 לא שיפור ש שיפור את לא LPT אנו רואים ס

:LOCAL SEARCH •

input selected: (48, 35, 34, 34, 33, 32, 31, 27, 25, 23, 22, 22, 21, 19, 17, 11, 11, 11, 9, 9, 7, 7, 4, 2, 1) size 25 sum 495 פתרון התחלתי של LPT עבור 10 תאים:

Start ------ startSol: target function = 62, num of machines=10 machines content: bucket1 sum:52, content= (48, 4) bucket2 sum:49, content= (35, 11, 2, 1) bucket3 sum:52, content= (34, 11, 7) bucket4 sum:45, content= (34, 11) bucket5 sum:50, content= (33, 17) bucket6 sum:50, content= (32, 9, 9) bucket7 sum:50, content= (31, 19)

```
bucket8 sum:48, content= (27, 21)
bucket9 sum:48, content= (25, 23)
bucket10 sum:51, content= (22, 22, 7)
                                    ס פתרון התחלתי של BESTFIT עבור 10 תאים (מחקנו את הפירוט כדי לא להעמיס טקסט) פתרון
target function = 67, num of machines=10
                                                                                        יניצה): c פתרון מנצה (LPT ניצה):
END ----- bestSolutionFound for alg LPT found:
target function = 61, num of machines=10
machines content:
bucket1 sum:48, content= (48)
bucket2 sum:46, content= (35, 11)
bucket3 sum:51, content= (33, 11, 7)
bucket4 sum:49, content= (34, 11, 4)
bucket5 sum:51, content= (34, 17)
bucket6 sum:50, content= (32, 9, 9)
bucket7 sum:50, content= (31, 19)
bucket8 sum:48, content= (27, 21)
bucket9 sum:51, content= (25, 23, 2, 1)
bucket10 sum:51, content= (22, 22, 7)
Run time: 2.157 seconds
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. כמו שניתן לראות LOCAL SEARCH הצליח להגיע לאופטימום.

• הגרלנו 952 משימות ושמרנו לשימוש עתידי

92, 92, 92, 92, 92, 92, 91, 91, 91, 91, 91, 91, 91, 91, 91, 90, 90, 90, 90, 90, 90, 90, 89, 89, 89, 89, 89, 89, 89, 88, 28, 28, 27, 27, 27, 27, 27, 27, 27, 27, 26, 26, 26, 26, 26, 25, 25, 25, 25, 25, 25, 25, 25, 25, 24, 24, 24, 24, 24, 24, 24, 23, שנים שונים אבל שני פתרונות שונים BEST FIT את האופטימום אבל שני פתרונות שונים •

:LPT •

"Starting LPT"

Start ----- startSol found:

 $\frac{\text{target function}}{\text{target function}} = \frac{4751}{\text{target function}}$, num of machines=10

machines content:

bucket1 sum: 4741, content= (100, 100, 98, 97, 97, 96, 95, 94, 94, 91, 91, 89, 88, 87, 87, 84, 83, 82, 81, 79, 77, 76, 75, 74, 73, 72, 70, 69, 67, 67, 66, 65, 63, 62, 62, 61, 60, 59, 58, 58, 56, 56, 55, 54, 53, 53, 52, 51, 50, 50, 48, 47, 47, 46, 45, 44, 43, 41, 41, 39, 38, 37, 36, 34, 33, 32, 30, 29, 28, 27, 25, 23, 22, 21, 19, 18, 18, 16, 16, 14, 13, 13, 11, 10, 10, 9, 8, 7, 6, 5, 4, 4, 3, 2, 1, 1)

bucket2 sum: 4740, content= (100, 100, 98, 97, 97, 96, 95, 94, 93, 92, 91, 89, 88, 87, 87, 84, 83, 82, 81, 79, 77, 76, 75, 74, 73, 72, 70, 69, 67, 67, 66, 64, 64, 62, 62, 61, 59, 59, 59, 58, 56, 56, 55, 54, 53, 53, 52, 51, 50, 50, 48, 47, 47, 46, 45, 44, 43, 41, 41, 39, 38, 37, 36, 34, 33, 31, 31, 29, 28, 27, 24, 24, 22, 21, 19, 18, 17, 17, 16, 14, 13, 13, 11, 10, 10, 9, 8, 7, 6, 5, 4, 4, 3, 2, 1)

bucket3 sum: 4740, content= (100, 100, 98, 97, 97, 96, 95, 94, 93, 92, 91, 89, 88, 87, 87, 84, 83, 82, 80, 80, 77, 76, 75, 74, 73, 71, 71, 69, 67, 67, 66, 64, 64, 62, 62, 60, 60, 59, 59, 57, 57, 56, 55, 54, 53, 53, 52, 51, 50, 49, 49, 47, 47, 46, 45, 44, 43, 41, 41, 39, 38, 37, 36, 34, 33, 31, 30, 30, 28, 26, 25, 24, 22, 20, 20, 18, 17, 17, 15, 15, 13, 12, 11, 10, 10, 9, 9, 7, 6, 5, 4, 4, 3, 2, 1)

bucket4 sum: 4740, content= (100, 99, 99, 97, 97, 96, 95, 94, 93, 92, 90, 90, 88, 87, 86, 85, 83, 82, 80, 80, 77, 76, 75, 74, 73, 71, 71, 68, 68, 67, 65, 65, 64, 62, 62, 60, 60, 59, 59, 57, 57, 56, 55, 54, 53, 53, 52, 51, 50, 49, 49, 47, 47, 46, 45, 44, 42, 42, 40, 40, 38, 37, 36, 34, 33, 31, 30, 30, 28, 26, 25, 24, 22, 20, 20, 18, 17, 17, 15, 15, 13, 12, 11, 10, 10, 9, 9, 7, 6, 5, 4, 3, 3, 2, 2)

```
bucket5 sum: 4740, content= (100, 99, 99, 97, 97, 96, 95, 94, 93, 92, 90, 90, 88, 87, 86, 85, 83, 82, 80, 80, 77, 76, 75, 74, 73, 71, 71, 68, 68, 67, 65, 65, 64, 62, 62, 60, 60, 59, 58, 58, 57, 56, 55, 54, 53, 53, 52, 51, 50, 49, 49, 47, 47, 46, 45, 44, 42, 42, 40, 40, 38, 37, 36, 34, 33, 31, 30, 30, 28, 26, 25, 24, 22, 20, 20, 18, 17, 17, 15, 15, 13, 12, 11, 10, 10, 9, 8, 7, 7, 5, 4, 3, 3, 2, 2)
```

bucket6 sum: 4740, content= (100, 99, 98, 98, 97, 96, 95, 94, 93, 92, 90, 90, 88, 87, 86, 85, 83, 82, 80, 79, 78, 76, 75, 74, 73, 71, 71, 68, 68, 66, 65, 64, 62, 61, 61, 60, 59, 58, 58, 57, 56, 54, 54, 54, 53, 52, 51, 50, 49, 48, 48, 47, 46, 45, 44, 42, 42, 40, 39, 39, 37, 35, 34, 34, 31, 30, 30, 27, 27, 25, 23, 23, 20, 20, 18, 17, 17, 15, 15, 13, 12, 11, 10, 10, 9, 8, 7, 7, 5, 4, 3, 3, 2, 2)

bucket7 sum: 4740, content= (100, 99, 98, 98, 97, 96, 95, 94, 93, 92, 90, 89, 89, 87, 86, 85, 83, 81, 81, 79, 78, 76, 75, 74, 72, 70, 69, 68, 66, 65, 64, 62, 61, 61, 60, 59, 58, 58, 57, 55, 55, 54, 54, 53, 52, 51, 50, 49, 48, 48, 46, 46, 46, 43, 42, 40, 39, 38, 38, 35, 34, 32, 32, 31, 29, 29, 26, 25, 23, 23, 20, 20, 18, 17, 16, 16, 15, 13, 12, 11, 10, 10, 9, 8, 7, 6, 5, 5, 3, 3, 2, 2)

bucket8 sum: 4740, content= (100, 99, 98, 98, 96, 96, 95, 95, 92, 92, 91, 89, 89, 87, 86, 85, 83, 81, 81, 78, 78, 76, 76, 74, 72, 72, 70, 69, 67, 66, 65, 63, 63, 61, 61, 60, 59, 58, 58, 57, 55, 55, 54, 54, 52, 52, 51, 51, 49, 48, 48, 46, 46, 45, 44, 43, 42, 40, 39, 38, 38, 35, 34, 32, 32, 31, 29, 29, 26, 25, 23, 22, 21, 19, 19, 17, 16, 16, 14, 14, 12, 11, 10, 10, 9, 8, 7, 6, 5, 5, 3, 3, 2, 2)

bucket9 sum: 4740, content= (100, 99, 98, 98, 96, 96, 95, 94, 94, 91, 91, 89, 88, 88, 86, 85, 82, 82, 81, 78, 78, 76, 75, 74, 74, 71, 69, 69, 68, 67, 66, 65, 63, 63, 61, 61, 60, 59, 58, 58, 56, 56, 55, 54, 54, 52, 52, 51, 51, 49, 48, 47, 47, 46, 45, 44, 43, 42, 40, 39, 38, 37, 36, 34, 32, 32, 31, 29, 27, 27, 25, 24, 22, 21, 19, 19, 17, 16, 16, 14, 14, 11, 11, 11, 10, 9, 8, 7, 6, 5, 4, 4, 3, 2, 2)

bucket10 sum: 4740, content= (100, 99, 98, 98, 96, 96, 95, 94, 94, 91, 91, 89, 88, 88, 86, 84, 83, 82, 81, 78, 78, 76, 75, 74, 74, 71, 69, 69, 68, 67, 66, 65, 63, 63, 61, 61, 60, 59, 58, 58, 56, 56, 55, 54, 53, 53, 52, 51, 50, 50, 48, 47, 47, 46, 45, 44, 43, 42, 40, 39, 38, 36, 36, 35, 32, 32, 31, 29, 27, 27, 25, 24, 22, 21, 19, 18, 18, 16, 16, 14, 14, 11, 11, 11, 10, 9, 8, 7, 6, 5, 4, 4, 3, 2, 1, 1)

"Starting BESTFIT"

Start ----- startSol found:

BEST FIT •

```
target function = 4751, num of machines=10
machines content:
82, 82, 81, 81, 81, 81, 81, 81, 81, 81, 81, 80, 80, 80, 80, 80, 80, 80, 79, 79, 79, 79, 78, 78, 78, 78, 78, 78, 78, 77, 77,
77, 77, 39)
70, 70, 70, 69, 69, 69, 69, 69, 60)
47, 47, 47, 47, 47, 2)
38, 37, 37, 37, 37, 37, 37, 36, 36, 36, 36, 36, 36, 36, 36, 35, 35, 35, 35, 35, 34, 34, 34, 34, 34, 34, 34, 30)
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- 4741 שיודע את החסם התחתון, נסה למלא את כל התאים כך שיגיעו ל BEST FIT רואים בבירור ש האים על 14741 ותא אחד על 4732 תשעה תאים על 4741 ותא אחד על 14732
- לעומת זאת, LPT לא ידע שזה החסם ופשוט עשה זאת בצורה חמדנית ויצאה לו תוצאה יותר מאוזנת 4740 ותשעה תאים 4740