

Comprehensive Assignment

CSI 2120 Programming Paradigms

Winter 2021

Part 4 (Scheme) due on April 14 at 23:00

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Functions

Function	Description
(knapsack maxwt itemL)	This function is called to solve the knapsack problem given a knapsacks maxwt and a list of items itemL
(append-list L1 L2)	This function appends together 2 lists L1 and L2
(max k1 k2)	This function returns the knapsack with the largest value
(add k i)	This functions adds item I to knapsack k
(returnlarger maxwt itemL)	This function is used as the else case in the knapsack function. It returns the larger of 2 knapsacks one which includes the next item in the list and one which does not include it.
(solveknapsack name)	This function given a file name name, will read parameters from the file and call knapsack to solve the knapsack problem.
(define (getitems n i)	Gets and returns a list of n items from the file i.

Solve p1 Example Result.

```
Welcome to DrRacket, version 8.0 [cs].
Language: racket, with debugging; memory limit: 128 MB.
> (solveknapsack "p1.txt")
'(21 (D . B))
>
```