

# Homework 2

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**Due** Apr 18 by 11:59pm    **Points** 30    **Submitting** a file upload    **Available** Apr 12 at 12am - Apr 19 at 11:59pm 8 days

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This assignment was locked Apr 19 at 11:59pm.

Description: [HW 2](#)

Sample input file for Problem 2: [shopping.txt](#) ↓ ([https://canvas.oregonstate.edu/courses/1870028/files/92756890/download?download\\_frd=1](https://canvas.oregonstate.edu/courses/1870028/files/92756890/download?download_frd=1)) download this file since the Canvas viewer add characters)

Sample Output files for Problem 2: [HW2Solution.txt](#) ↓ ([https://canvas.oregonstate.edu/courses/1870028/files/92756891/download?download\\_frd=1](https://canvas.oregonstate.edu/courses/1870028/files/92756891/download?download_frd=1))

Script files:

- [HW2.sh](#) ↓ ([https://canvas.oregonstate.edu/courses/1870028/files/93195975/download?download\\_frd=1](https://canvas.oregonstate.edu/courses/1870028/files/93195975/download?download_frd=1))

**Submit the write up to Canvas.**

**Submit to TEACH a .zip file containing your code files for problems 1 & 2. The .zip file should contain**



- hapsack. \*\*
- shopping. \*\*
- HW2Solution.txt
- shopping.txt
- HW2.sh

Where \*\* = c, cpp or py

Criteria	Ratings					Pts
P1 a) Knapsack.** implementation with both recursive and DP algorithms. Code is commented, compiles and runs with the appropriate script. Outputs running times	10 pts Full Marks	9 pts 1 minor error or missing item	8 pts 2 minor errors of missing items	4 pts Does not compile or run	0 pts No Marks	10 pts
P1 b) Conduct experiments to collect running times for randomly generated input. Since there are two variables, n and W, you can hold W constant while varying the value of n. If the recursive algorithm is too slow you can use different values of n for each algorithm.	1 pts Full Marks		0.5 pts minor error		0 pts missing	1 pts

Criteria	Ratings								Pts
P1. c) Plot the data, calculate the best fit equation and graph the best fit curves.	4 pts full credit	3 pts 1 minor error or missing item		2 pts 2 or more missing items or minor errors			1 pts effort only	0 pts missing	4 pts
P2. a) Written Description and pseudo-code	2 pts Full Marks		1.33 pts minor error		0.67 pts missing verbal description			0 pts No Marks	2 pts
P2 b) Implementation, tested with shopping.txt. The code is commented and follows the psuedocode in part a). Complies, runs and gives correct output with the appropriate script.	13 pts Full Marks	12 pts 1 minor error	11 pts 2 minor errors	10 pts 3 minor errors	8 pts 4 or more errors/missing output	6 pts Compiles & runs but all output incorrect	3 pts does not run	0 pts No Marks	13 pts
Total Points: 30									

