


by Chris

2016/6/3

Review Test Submission: Week 10 Quiz – COMP90038_2016_SM1




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Haoyu Lin 66



Weekly Quizzes

Review Test Submission: Week 10 Quiz

Review Test Submission: Week 10 Quiz

User	Haoyu Lin
Subject	Algorithms and Complexity
Test	Week 10 Quiz
Started	14/05/16 5:59 PM
Submitted	14/05/16 6:00 PM
Due Date	20/05/16 11:59 PM
Status	Completed
Attempt Score	3 out of 3 points
Time Elapsed	0 minute
Instructions	<p>You should attempt the quiz after the lecture and your tutorial.</p> <ul style="list-style-type: none">The quiz is available for a period of 10 days.You may attempt the quiz multiple times (if you happen to get a question wrong, you can do it again)Your score on the quiz will be recorded in the grade book. The score is not used when determining your final mark in this subjectThe quiz might not display equations correctly in some browsers. If you experience problems, we recommend that you use Firefox. <p>Note: you must complete at least eight of the weekly quizzes to meet one of the hurdle requirements in this subject.</p>
Results Displayed	All Answers, Submitted Answers, Feedback, Incorrectly Answered Questions


Question 1

1 out of 1 points

https://app.lms.unimelb.edu.au/webapps/assessment/review/review.jsp?attempt_id=_12701007_1&course_id=_289856_1&content_id=_5286188_1&outcome_id=_11459308_1&outcome_definition_id=_1237931_1 1/3

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Given the string 001001001001 we wish to use some string search algorithm to see if the string contains the substrng 111. The candidates are the brute-force method and Horspool's. The number of character comparisons the two will make are, respectively:

Selected Answer: b. 13 and 5


Answers:

- a. 13 and 4
- b. 13 and 5
- c. 12 and 5
- d. 12 and 6
- e. 13 and 6
- f. 13 and 8

Response Feedback: Yes, that's good.

Question 2

1 out of 1 points



Edsger Dijkstra studied the following problem which he called theProblem of the Dutch National Flag. We are given an array of pebbles, some blue, some red, some white. We want to rearrange them in the order of the Dutch flag, that is, first come the red, then the white, and finally the blue pebbles. Which sorting method is best suited for this task, that is, most efficient?

Selected Answer: g. Sorting by counting

Answers:

- a. Heapsort
- b. Insertion sort
- c. Mergesort
- d. Quicksort
- e. Selection sort
- f. Shellsort
- g. Sorting by counting

Response Feedback: That's right. There are only three different keys, so this is an ideal setting for sorting by counting.

https://app.lms.unimelb.edu.au/webapps/assessment/review/review.jsp?attempt_id=_12701007_1&course_id=_289856_1&content_id=_5286188_1&outcome_id=_11459308_1&outcome_definition_id=_1237931_1 2/3

Question 3

1 out of 1 points



A hash table with 5003 entries is used with linear probing (that is, in an open-addressing manner). It currently holds 4000 keys/records. How many probes should we expect during a lookup for some key that is in fact present (that is, in a successful search)?

- Selected Answer: b. 3
- Answers:
- a. 2
 - b. 3
 - c. 4
 - d. 5
 - e. 6
 - f. At least 7

$$\alpha = \frac{4000}{5003}$$
$$\frac{1}{2} + \frac{1}{2(1-\alpha)} \approx 2.99$$

Response Feedback: Yes, you have earned another badge.

Question 4

0 out of 0 points



Run the dynamic-programming algorithm for the coin-row problem on this instance: 100 5 20 50 100 100 10 5 20 20. Which amount (in cents) does it produce?

- Selected Answer: 275
- Response Feedback: Yes, that's right. Nifty linear-time algorithm, isn't it?

Friday, 3 June 2016 10:07:21 AM EST

$$1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9 \ 10$$

	1	2	3	4	5	6	7	8	9	10
100	100	120	150	220	250	250	255	270	275	

← OK