

Quiz 2

Deadline	Friday, 19 June 2020 at 11:59PM
Latest Submission	<i>no submission yet</i>
Maximum Mark	4

Question 1 (1 mark)

Consider the Makefile

```
CC=gcc
prog : x.o y.o
x.o : x.c
y.o : y.c
```

and the directory listing

```
-rw-r--r-- 1 jas staff 230 13 Jun 15:15 Makefile
-rwxr-xr-x 1 jas staff 25004 14 Jun 20:29 prog
-rw-r--r-- 1 jas staff 2444 14 Jun 20:26 x.c
-rw-r--r-- 1 jas staff 5556 14 Jun 20:27 x.o
-rw-r--r-- 1 jas staff 11411 14 Jun 20:30 y.c
-rw-r--r-- 1 jas staff 513 14 Jun 20:27 y.o
```

What commands will be executed if we run the make command in this directory?

(a) <input type="radio"/>	No commands will be executed
(b) <input type="radio"/>	<div>gcc -o prog x.o y.o</div>
(c) <input type="radio"/>	<div>gcc -c x.c gcc -c y.c gcc -o prog x.o y.o</div>
(d) <input type="radio"/>	<div>gcc -c x.c gcc -o prog x.o y.o</div>

(e) <input type="radio"/>	<pre>gcc -c y.c gcc -o prog x.o y.o</pre>
(f) <input type="radio"/>	None of the above is correct

Question 2 (1 mark)

What is the *maximum* path length in a binary search tree containing n nodes?

Path length = number of **links/edges** on a path from root to leaves.

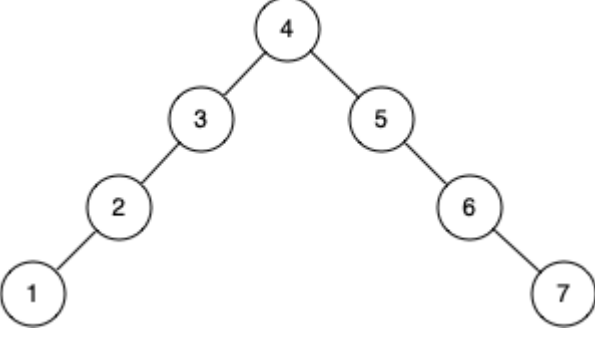
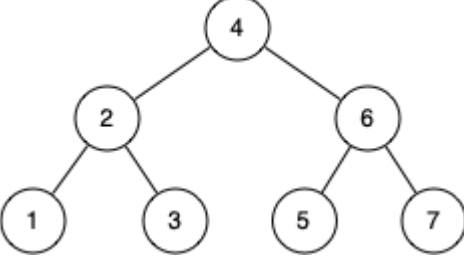
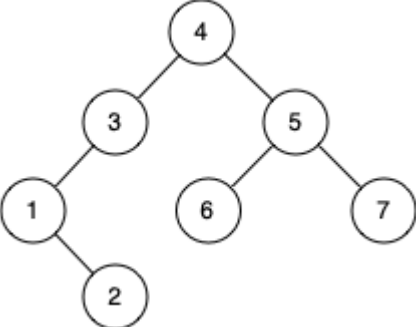
(a) <input type="radio"/>	$\log_2 n$
(b) <input type="radio"/>	$n-1$
(c) <input type="radio"/>	n
(d) <input type="radio"/>	$n+1$
(e) <input type="radio"/>	None of the above is correct

Question 3 (1 mark)

What tree results from the insertion of the following values into an initially empty binary search tree?

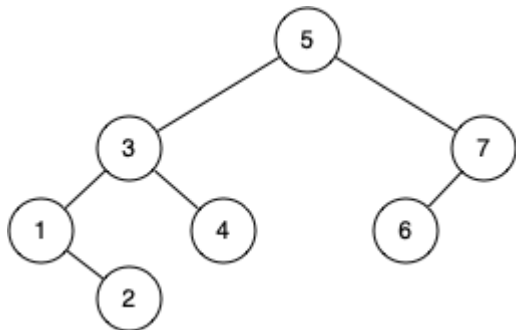
4 6 2 7 3 5 1

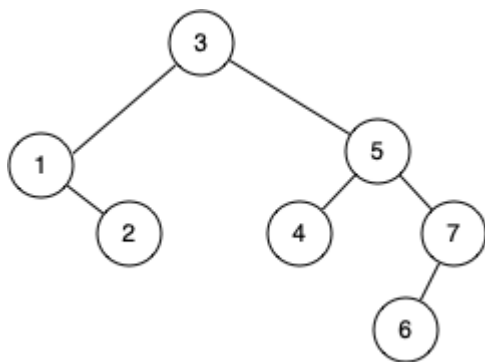
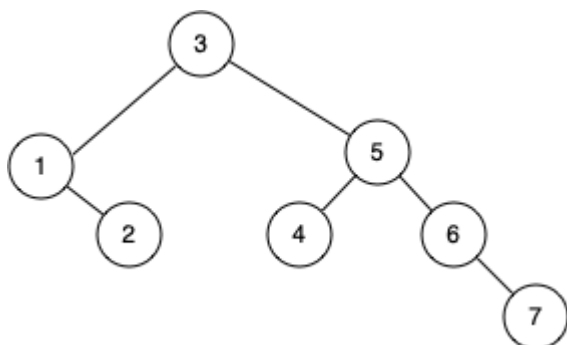
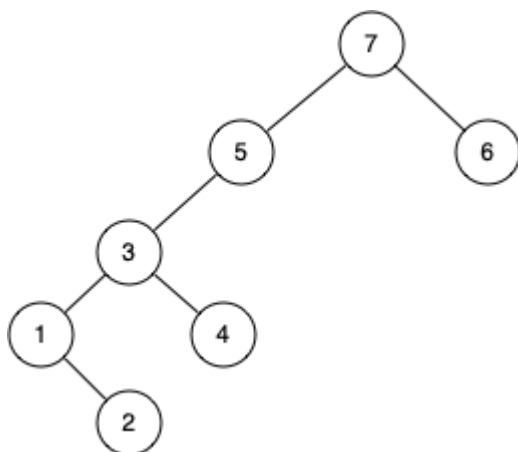
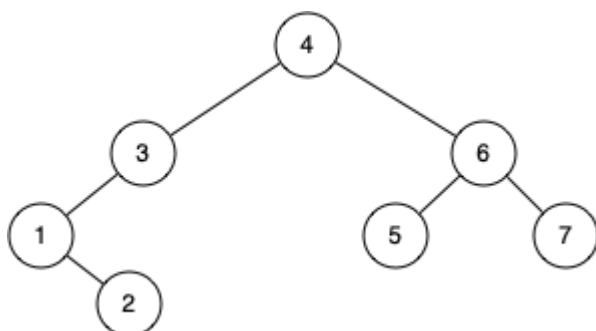
(a) <input type="radio"/>	<pre> graph TD 1((1)) --> 4((4)) 4 --> 3((3)) 4 --> 5((5)) 3 --> 2((2)) 5 --> 6((6)) 5 --> 7((7)) </pre>
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(b) <input type="radio"/>	 <pre> graph TD 4((4)) --- 3((3)) 4 --- 5((5)) 3 --- 2((2)) 2 --- 1((1)) 5 --- 6((6)) 6 --- 7((7)) </pre>
(c) <input type="radio"/>	 <pre> graph TD 4((4)) --- 2((2)) 4 --- 6((6)) 2 --- 1((1)) 2 --- 3((3)) 6 --- 5((5)) 6 --- 7((7)) </pre>
(d) <input type="radio"/>	 <pre> graph TD 4((4)) --- 3((3)) 4 --- 5((5)) 3 --- 1((1)) 1 --- 2((2)) 5 --- 6((6)) 5 --- 7((7)) </pre>
(e) <input type="radio"/>	None of the above is correct

Question 4 (1 mark)

What is the tree resulting from a right rotation around the node containing 5?



(a) ☐(b) ☐(c) ☐(d) ☐(e) ☐

None of the above is correct

☒ Submit