Quiz 2

Deadline	Friday, 19 June 2020 at 11:59PM
Latest Submission	Friday, 19 June 2020 at 1:18AM
Raw Mark	4.00/4.00 (100.00%)
Late Penalty	N/A
Final Mark	4.00/4.00 (100.00%)

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) ○	No commands will be executed
(b) ○	`gcc –o prog x.o y.o`

(c) ○	`gcc –c x.c`
	`gcc –c y.c`
	`gcc –o prog x.o y.o`

(d) ○	`gcc –c x.c` `gcc –o prog x.o y.o`
(e) ◉	`gcc –c y.c` `gcc –o prog x.o y.o`
(f) ○	None of the above is correct

✔ Your response was correct.
Mark: 1.00

The answer to the above depends on the default **make** rules on a particular machine.

If the rules allowed make to work out that it needed to recreate prog, then (e) would be correct.

If the rules did not provide for this, then none the choices were correct.

We accept both (e) and (f) as being "correct". Webcms3 can only show one answer as being correct, so everyone who chose (f) will see it as incorrect on the Wecbsm3 quiz page. However, the extra mark will be allocated in sturec, which is where your final mark is computed.

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) ○	$log_2 n$
(b) ◉	*n-1*
(c) ○	*n*
(d) ○	*n+1*
(e) ○	None of the above is correct

✔ Your response was correct.
Mark: 1.00

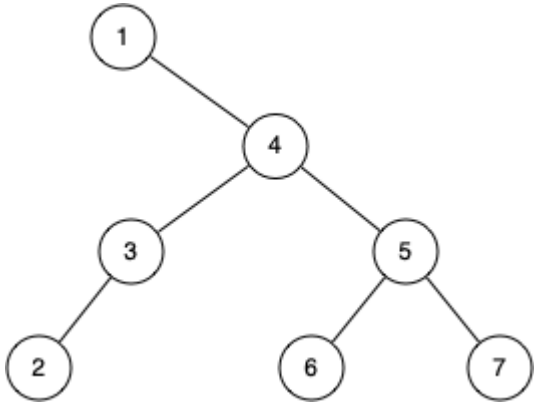
Maximum path length occurs when we have a single path with *n* vertices. These require only *n-1* edges to link them all into such a path.

Question 3 (1 mark)

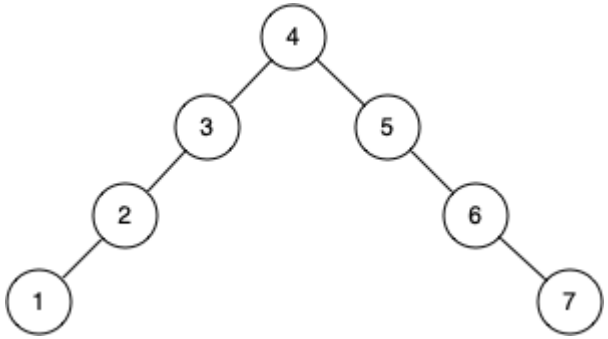
What tree results from the insertion of the following values into an initially empty binary search tree6

4 6 2 7 3 5 1

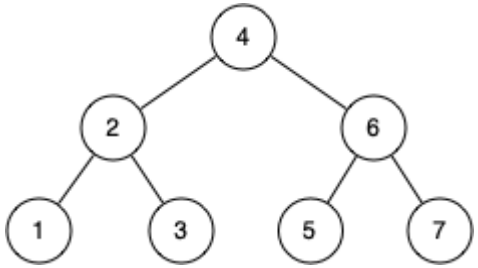
(a)

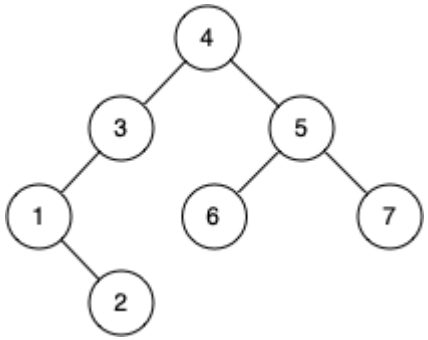


(b)



(c)

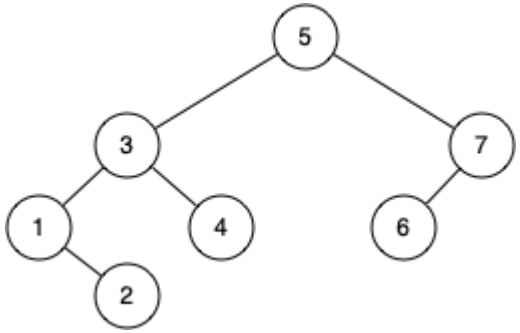


(d)	
(e)	None of the above is correct

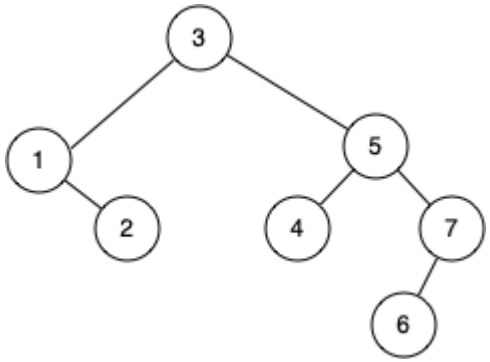
✔ Your response was correct.
Mark: 1.00

Question 4 (1 mark)

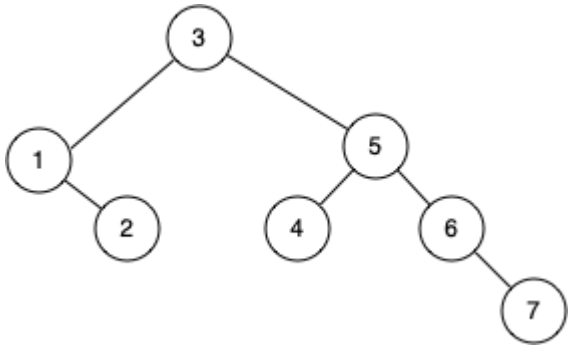
What is the tree resulting from a right rotation around the node containing 5?



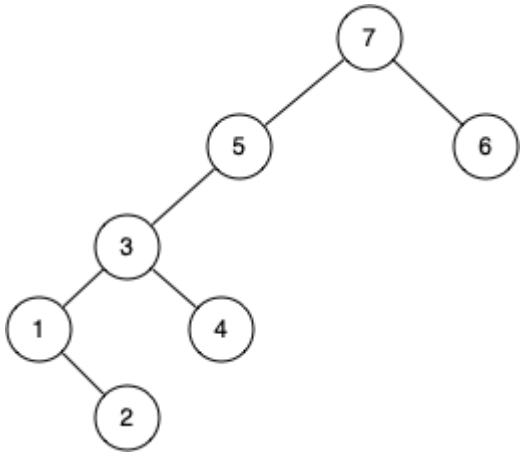
(a)

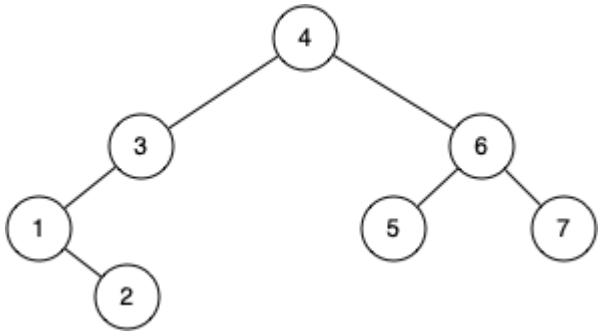


(b)



(c)



(d)	
(e)	None of the above is correct

✔ Your response was correct.
Mark: 1.00