

# Quiz - Lecture 11

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**Due** 2 Sep at 23:59      **Points** 5      **Questions** 5      **Available** 1 Sep at 9:10 - 2 Sep at 23:59 1 day  
**Time limit** None      **Allowed attempts** Unlimited

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Take the quiz again

## Attempt history

	Attempt	Time	Score
KEPT	<a href="#">Attempt 2</a>	1 minute	5 out of 5
LATEST	<a href="#">Attempt 2</a>	1 minute	5 out of 5
	<a href="#">Attempt 1</a>	less than 1 minute	1.67 out of 5

Score for this attempt: **5** out of 5

Submitted 1 Sep at 10:19

This attempt took 1 minute.

### Question 1

1 / 1 pts

What was the name of the virtual machine segment used in the first lecture on the Hack Virtual Machine?

Correct!

- ☐ temporary
- ☐ this
- ☐ data
- ☐ that
- ☐ pointer
- ☒ static

## Question 2

1 / 1 pts

The Hack Virtual Machine assumes values are represented in a particular way. Match the following to their representation or value.

Correct!

**integer**

16-bit 2's complement



Correct!

**pointer**

memory address



Correct!

**true**

-1



Correct!

false

0



Correct!

smallest integer value

-32768



Correct!

largest integer value

32767



Other Incorrect Match Options:

- 32-bit 2's complement
- 8-bit unsigned
- 65536
- -65535
- 16-bit unsigned
- 32768
- 65535
- 1
- -32767
- -65536

### Question 3

1 / 1 pts

Why are stacks drawn growing downwards in the textbook and on the lecture slides?

Correct!

- ☒ Stacks in real computers grow from high addresses to low addresses.

This used to be because memory was limited so the stack was stored as far away as possible from other data to minimise the chance of it overwriting other data.

- ☐ The stack in the Hack computer grows from high addresses to low addresses.

- ☐ They are not drawn this way.

Correct!

- ☒ So that the text book and lecture slides are consistent.

#### Question 4

1 / 1 pts

Assume that we have a stack where the value of the top element is 5 and the second top element is 4. If the value 5 is stored at memory address 315, what is the value of the stack pointer and at what memory address is the value 4 stored?

Correct!

**Stack Pointer**

316



Correct!

**4 is stored at address**

314



Other Incorrect Match Options:

- 317
- 318
- 315
- 313
- 312
- 0

### Question 5

1 / 1 pts

Assume that we have a stack where the value of the top element is 7 and the second top element is 3. If the VM command ***add*** is executed, and the value 3 is stored at memory address 768, what is the new value of the stack pointer?

- ☐ 0
- ☐ 770
- ☐ 768
- ☐ 771
- ☒ 769
- ☐ 767

Correct!

Quiz score: **5** out of 5