

# Unit 7 - Week 5

## Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

The Assembler Construction

Understanding the Working of Assembler

Assembler: Symbol Table Construction

Assembler: Pass 1

Assembler: Pass 2

Project 06 - Demonstration

Quiz : Assignment 5

Week 5 Feedback

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## Assignment 5

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2020-03-04, 23:59 IST.**

1) Which of the following translations is done by assembler?

1 point

- C code to HACK mnemonics
- HACK mnemonics to binary
- C code to binary
- C code to Python code

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
HACK mnemonics to binary

2) Which of the following is(are) valid formats for HACK mnemonics?(Refer to book or take examples)

1 point

- dest = comp; jump
- @value
- dest = comp
- comp; jump

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
dest = comp; jump  
@value  
dest = comp  
comp; jump

3) Which of the following is(are) CORRECT in HACK microarchitecture?

1 point

- The instructions and data are stored together in a single ROM.
- The instructions and data are stored together in a single RAM.
- The instructions and data are stored separately, in ROM and RAM, respectively.
- Both instruction and data memory start from address 0.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
The instructions and data are stored separately, in ROM and RAM, respectively.  
Both instruction and data memory start from address 0.

4) @ < expression > represents a A-instruction in HACK mnemonic format. Which of the following can be present in place of < expression > in the given instruction?

1 point

- sum, where sum is a variable
- loop1, where loop1 is a label
- KBD, where KBD refers to the word corresponding to keyboard.
- 1000, constant value

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
sum, where sum is a variable  
loop1, where loop1 is a label  
KBD, where KBD refers to the word corresponding to keyboard.  
1000, constant value

5) How many entries will be present in the symbol table when the following HACK program is translated to binary using an assembler?

```
(Start)
@1000
D = A
@i
M = D
(end)
@end
0; jmp
```

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
(Type: Numeric) 26

2 points

6) Which of the following is(are) NOT a predefined symbol(s) in the symbol table?

1 point

- R1
- SCREEN
- LOOP
- R0

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
LOOP

7) Which of the following is done in pass 1 of the assembler?

1 point

- Generation of binary output
- Removal of white spaces and comments
- Population of symbol table
- Resolving symbols

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Removal of white spaces and comments  
Population of symbol table  
Resolving symbols

8) Which of the following statements is TRUE about the .inter file?

1 point

- The file contains the symbol table constructed in pass 1.
- The file contains binary representation of HACK instructions given as input to assembler.
- The file is generated by pass 1 and is given as input to pass 2 of the assembler.
- The file contains the HACK instructions from the original .asm file, with comments and white spaces removed.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
The file is generated by pass 1 and is given as input to pass 2 of the assembler.  
The file contains the HACK instructions from the original .asm file, with comments and white spaces removed.

9) A C-instruction is generally represented generally of the form dest = comp; jump in HACK mnemonics. When this mnemonic is translated to binary, the a-bit of the instruction (bit used to choose between A/M as ALU input) is calculated from which part of the instruction? (Hint: Take examples)

1 point

- comp
- dest
- jump
- Data insufficient

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
comp