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**NORTH AMERICAN
UNIVERSITY**
INSPIRATION INNOVATION GLOBAL COMPETENCE

**Geraldo Braho** ▾

Dashboard > My courses > COMP > COMP 3320.Programming Languages.2017SPR.s1 > 6 February
- 12 February > Homework 4

Started on Saturday, 11 February 2017, 1:23 AM**State** Finished**Completed on** Saturday, 11 February 2017, 1:32 AM**Time taken** 8 mins 42 secs**Marks** 7.00/7.00**Grade** **100.00** out of 100.00**Question 1**

Correct

Mark 1.00 out of 1.00

The sentences of the language are generated through a sequence of applications of the rules, beginning with a special nonterminal of the grammar called the start symbol. This sequence of rule applications is called a derivation.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Question 2

Correct

Mark 1.00 out of 1.00

The following grammar cannot produce?

$$\langle \text{assign} \rangle \rightarrow \langle \text{id} \rangle = \langle \text{expr} \rangle$$
$$\langle \text{id} \rangle \rightarrow A \mid B \mid C$$
$$\langle \text{expr} \rangle \rightarrow \langle \text{expr} \rangle + \langle \text{term} \rangle$$
$$\mid \langle \text{term} \rangle$$
$$\langle \text{term} \rangle \rightarrow \langle \text{term} \rangle * \langle \text{factor} \rangle$$
$$\mid \langle \text{factor} \rangle$$
$$\langle \text{factor} \rangle \rightarrow (\langle \text{expr} \rangle)$$
$$\mid \langle \text{id} \rangle$$

Select one:

- ☒ a. $A = (A+B) * 3$ ✓
- ☐ b. $C = (A + (C + C)) * C$
- ☐ c. $A = (A+B) * C$
- ☐ d. $A = (B+B) * C$

Your answer is correct.

The correct answer is: $A = (A+B) * 3$

Question 3

Correct

Mark 1.00 out of 1.00

In the following grammar we can say that:

$$\langle \text{assign} \rangle \rightarrow \langle \text{id} \rangle = \langle \text{expr} \rangle$$
$$\langle \text{id} \rangle \rightarrow A \mid B \mid C$$
$$\langle \text{expr} \rangle \rightarrow \langle \text{expr} \rangle + \langle \text{term} \rangle$$
$$\mid \langle \text{term} \rangle$$
$$\langle \text{term} \rangle \rightarrow \langle \text{term} \rangle * \langle \text{factor} \rangle$$
$$\mid \langle \text{factor} \rangle$$
$$\langle \text{factor} \rangle \rightarrow (\langle \text{expr} \rangle)$$
$$\mid \langle \text{id} \rangle$$

Select one:

- ☒ a. * has precedence over + ✓
- ☐ b. + has precedence over *
- ☐ c. + and * have same precedence
- ☐ d. we cannot say anything about their precedence

Your answer is correct.

The correct answer is: * has precedence over +

Question 4

Correct

Mark 1.00 out of 1.00

A metalanguage is a language that is used to describe another language. BNF is a metalanguage for programming languages.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Question 5

Correct

Mark 1.00 out of 1.00

A grammar that generates a sentential form for which there are two or more distinct parse trees is said to be _____.

Select one:

- ☐ a. readable
- ☒ b. ambiguous ✓
- ☐ c. unambiguous
- ☐ d. flexible

Your answer is correct.

The correct answer is: ambiguous

Question 6

Correct

Mark 1.00 out of 1.00

What is the legendary programming language that is especially used for scientific calculations?

Select one:

- ☒ a. Fortran ✓
- ☐ b. Cobol
- ☐ c. Algol
- ☐ d. Scitran
- ☐ e. AWK

Your answer is correct.

The correct answer is: Fortran

Question 7

Correct

Mark 1.00 out of 1.00

JIT (Just-in-Time) compilers are widely used for Java programs.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.