# CS 4250 PROGRAMMING LANGUAGES FALL 2018

**KEY TO QUIZ #5 [6 points]**

1. Define unary, binary and ternary operators.

*Answer:*

An operator of each type has a specified number of operands, which is shown in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| Type of operator | unary | binary | ternary |
| Number of operands | one | two | three |

1. What operator usually has right associativity?

*Answer:*

When available, usually exponentiation operator has the right associativity (exception: Visual Basic, where the exponentiation operator is left associative).

1. Explain the meaning of a cast.

*Answer:*

In the C-based languages, explicit type conversions are called casts.

1. For the given expression *a* – *b* \* *c* + 4 \* *a* assume that: (a) originally *a* has the value of 2, *b* has the value of 3 and *c* has the value of 1; (b) there is no operator precedence. Calculate the value of the expression assuming:

|  |  |
| --- | --- |
| *Left associativity of all operators*  *Answer:*  Value of expression =  = (( (2 – 3) \* 1) + 4) \* 2 = 6 | *Right associativity of all operators*  *Answer:*  Value of expression =  = (2 – (3 \* (1 + (4 \* 2))) = – 25 |

1. Give an example of a multiple-target, multiple source assignment.

*Answer:*

In Perl: ($a, $b, $c) = (1, 2, 3);

1. Explain what mixed-mode assignment is allowed in Java.

*Answer:*

Java allows mixed-mode assignment only if the required coercion is widening (for example, if an int value is assigned to float variable, but not vice versa).