

Activities: Module 2

Role Numbers: _____

Python Expressions

Python expresses arithmetic expressions using the normal mathematical symbols with + for the addition operator, - for negation and subtraction, * for multiplication, / for division and the double asterisk ** for exponentiation. Integer division is expressed with a double slash //. Round parentheses change operator precedence. In an expression such as 5//3//2, the order of precedence is from the left to the right. Thus, we first divide 5 by 3 as integers, yielding 1 and then divide the result by 2 as an integer, yielding 0. On the other hand, 5//(3//2) evaluates by first dividing 3 by 2 yielding 1 and then 5 by 1, yielding 5. The percentage is the remainder after division.

- Evaluate the following expression in IDLE.
 - 2^5
 - 2×5
 - $\frac{5+1}{5^2+1}$ using parentheses
 - $\sqrt{5}$ by exponentiating with 0.5
- The double slash is integer division, the percentage symbol is the modulo operation giving the remainder of a division. First evaluate yourself, then evaluate using IDLE
 - 5//3
 - 5 % 3
 - 10//2 % 3
- In Python, the meaning of an operation depends sometimes on the type of the expressions. The addition symbol allows you to concatenate strings and the multiplication symbol expresses repetition between a non-negative integer and a string. Strings are defined by enclosing them within quotation marks, which can be double or single. We get an error if the operation is not defined. Evaluate
 - $(-3) * 5$
 - $(-3) * \text{"hello"}$
 - $3 * \text{"hello"}$
 - $55 * \text{'hello'}$

Saving Scripts

- In IDLE, we create a Python script by using the FILE tab and selecting New (or by typing the action sequence, which depends on the Operating System). The file needs to be saved before it can be run (using the F5) button. Our first Python program was the famous “Hello World” program. It consists of a single line:

```
print('Hello World')
```

Using different scripts

- Python can use different scripts since it uses UTF-8 by default. If you preface a string with u, then you can give unicode letters. What is the result of `print(u'\u0A85\u0AAE\u0AA6\u0ABE\u0AB5\u0ABE\u0AA6')` ?
- Change the “hello world” program to Gujarati and to Hindi.