

- ```
Python program to calculate miles per gallon
miles = 100
gallonsUsed = 5.0
MPG = miles / gallonsUsed
print "Your mileage was", MPG, "miles per gallon."
```

4. Given that the operator precedence for Python's mathematical operations is (from highest to lowest):

- Operations that are enclosed in parentheses.
- Exponentiation `**` (right associative)
- Unary negation `-` and positive `+`
- Multiplication `*`, division `/`, and remainder `%` (left associative)
- Addition `+` and subtraction `-` (left associative)

Evaluate each of the following:

a)  $6 + 3 * 5$

b)  $(5 + 2) / 2$

c)  $-4 + 2 ** 3 ** 2 - 5$

d)  $7 \% 4 + 5 * 6$

e)  $4---9$

5. An operation involving two int operands yields an int result. An operation involving two float operands yields a float result. *Mixed-type expressions* involving an int operand and a float operand causes the int to be converted to a float before the operation, so the result is a float. Evaluate each of the following:

a)  $2 + 5 / 2$

b)  $2.0 + 5 / 2$

c)  $2 + 5 / 2.0$

d)  $8.0 \% 3 / 4$

6. You can explicitly convert a value to a specific type (called *casting*) by using the functions `int()` or `float()`. Evaluate each of the following:

a) `float(2) + 5 / 2`

b) `2.0 + 5 / float(2)`

c) `float(2 + 5) / 2`

d) `int(9.9) / float(2)`

7. Python has a few `__builtins__` functions related to character manipulation: `chr(65)` returns 'A', `ord('A')` returns 65. What would be the result of each of the following?

a) `chr( ord('B') + 32 )`

b) `chr( ord('A') + 5 )`