

Assignment 1

1. The value of the expressions $4/(3*(2-1))$ and $4/3*(2-1)$ is the same.
2. What will be the value of the following Python expression?
3. Evaluate the expression given below if $A = 16$ and $B = 15$.
4. Which of the following operators has its associativity from right to left?
5. What will be the value of x in the following Python expression? $x = \text{int}(43.55+2/2)$
6. What is the value of the following expression?
 $2+4.00$, $2**4.0$
7. Which of the following is the truncation division operator?
8. What are the values of the following Python expressions?
 $2**(3**2)$
 $(2**3)**2$
 $2**3**2$
9. What is the value of the following expression?
10. What is the value of the following expression?
11. What will be the output of the following Python expression?
 $\text{print}(4.00/(2.0+2.0))$
12. What will be the value of X in the following Python expression?
 $X = 2+9*((3*12)-8)/10$
13. Which of the following expressions involves coercion when evaluated in Python?
 - a) $4.7 - 1.5$
 - b) $7.9 * 6.3$
 - c) $1.7 \% 2$
 - d) $3.4 + 4.6$
14. What will be the output of the following Python expression?
 $24//6\%3$, $24//4//2$
15. Which among the following list of operators has the highest precedence?
 $+$, $-$, $**$, $\%$, $/$, $<<$, $>>$, $|$
16. What will be the value of the following Python expression?
 $\text{float}(4+\text{int}(2.39)\%2)$
17. Which of the following expressions is an example of type conversion?
18. Which of the following expressions results in an error?
 - a) $\text{float}('10')$
 - b) $\text{int}('10')$
 - c) $\text{float}('10.8')$
 - d) $\text{int}('10.8')$
19. What will be the value of the following Python expression?

$4+2^{**5}/10$

20. The expression $2^{**2^{**3}}$ is evaluates as: $(2^{**2})^{**3}$.

a) True

b) False

1. What will be the output of the following Python code snippet if $x=1$?

$x < 2$

a) 8

b) 1

c) 2

d) 4

2. What will be the output of the following Python expression?

`bin(29)`

a) '0b10111'

b) '0b11101'

c) '0b11111'

d) '0b11011'

3. What will be the value of x in the following Python expression, if the result of that expression is 2?

$x >> 2$

a) 8

b) 4

c) 2

d) 1

4. What will be the output of the following Python expression?

`int(1011)`?

a) 1011

b) 11

c) 13

d) 1101

5. To find the decimal value of 1111, that is 15, we can use the function:

a) `int(1111,10)`

b) `int('1111',10)`

c) `int(1111,2)`

d) `int('1111',2)`

6. What will be the output of the following Python expression if $x=15$ and $y=12$?

$x \& y$

a) b1101

b) 0b1101

c) 12

d) 1101

7. Which of the following expressions results in an error?

a) `int(1011)`

b) `int('1011',23)`

c) `int(1011,2)`

d) `int('1011')`

8. Which of the following represents the bitwise XOR operator?

a) `&`

b) `^`

c) `|`

d) `!`

9. What is the value of the following Python expression?

`bin(0x8)`

a) `'0bx1000'`

b) 8

c) 1000

d) `'0b1000'`

10. What will be the output of the following Python expression?

`0x35 | 0x75`

a) 115

b) 116

c) 117

d) 118

1. It is not possible for the two's complement value to be equal to the original value in any case.

a) True

b) False

2. The one's complement of 110010101 is:

a) 001101010

b) 110010101

c) 001101011

d) 110010100

3. Bitwise _____ gives 1 if either of the bits is 1 and 0 when both of the bits are 1.

a) OR

b) AND

c) XOR

d) NOT

4. What will be the output of the following Python expression?

`4^12`

a) 2

b) 4

c) 8

d) 12

5. Any odd number on being AND-ed with _____ always gives 1. Hint: Any even number on being AND-ed with this value always gives 0.

a) 10

b) 2

c) 1

d) 0

6. What will be the value of the following Python expression?

`bin(10-2)+bin(12^4)`

a) 0b10000

b) 0b10001000

c) 0b1000b1000

d) 0b10000b1000

7. Which of the following expressions can be used to multiply a given number 'a' by 4?

a) `a<<2`

b) `a<<4`

c) `a>>2`

d) `a>>4`

8. What will be the output of the following Python code if `a=10` and `b =20`?

`a=10`

`b=20`

`a=a^b`

`b=a^b`

`a=a^b`

`print(a,b)`

9. What is the two's complement of -44?

a) 1011011

b) 11010100

c) 11101011

d) 1011001110. What will be the output of the following Python expression?
`~100?`

a) 101

b) -101

c) 100

d) -100