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1 What is the result of the snippet of code shown below if x=1? x<<2

- a) 8
- b) 1
- c) 2
- d) 4

2 The output of the expression is: bin(29)

- a) '0b10111'
- b) '0b11101'
- c) '0b11111'
- d) '0b11011'

3 What is the value of x if: x>>2=2

- a) 8
- b) 4
- c) 2
- d) 1

4. What is the result of the 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 is the result of the 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 this expression?

bin(0x8)

- a) '0bx1000'
- b) 8
- c) 1000
- d) '0b1000'

10. What is the result of the expression: 0x35 | 0x75

- a) 115
- b) 116
- c) 117
- d) 118

11. It is not possible for the two's complement value to be equal to the original value in any case. State whether this statement is true or false.

- a) True
- b) False

12. The one's complement of 110010101 is:

- a) 001101010
- b) 110010101
- c) 001101011
- d) 110010100

13. 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

14. The result of the expression shown below is: 4^12

- a) 2
- b) 4
- c) 8
- d) 12

15. 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

16. What is the value of this expression: bin(10-2)+bin(12^4)

- a) 0b10000
- b) 0b10001000

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- c) 0b1000b1000
- d) 0b10000b1000

17. 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`

18. What is the output of the code show below if a=10 and b =20?

```
a=10
b=20
a=a^b
b=a^b
a=a^b
print(a,b)
```

- a) 10 20
- b) 10 10
- c) 20 10
- d) 20 20

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

- a) 1011011
- b) 11010100
- c) 11101011
- d) 10110011

20. What is the value of the expression: ~100?

- a) 101
- b) -101
- c) 100
- d) -100

21. What is the output of the code shown below?

```
l=[1, 0, 2, 0, 'hello', '', []]
list(filter(bool, l))
```

- a) Error
- b) [1, 0, 2, 0, 'hello', '', []]
- c) [1, 0, 2, 'hello', '', []]
- d) [1, 2, 'hello']

22. What is the output of the code shown below?

```
if (9 < 0) and (0 < -9):
    print("hello")
elif (9 > 0) or False:
    print("good")
else:
    print("bad")
```

- a) error
- b) hello
- c) good
- d) bad

23. The output of the line of code shown below is: `not(10<20)` and `not(10>30)`

- a) True
- b) False
- c) Error
- d) No output

24. The output of the snippet of code shown below?

```
bool('False')
bool()
```

- a) True True
- b) False True
- c) False False
- d) True False

25. What is the output of the snippet of code shown below?

```
['hello', 'morning'][:bool('')]
```

- a) error
- b) no output
- c) hello
- d) morning