DS&AI

Python For Data Science

DPP: 1

Python Collections and String Handling

Q1 The output of below python code segment is_____

```
a = 5.5
b = 2.0
c = 2
d = –2.0
e = a // b
f = d // c
print (e + f)
```

(A) 0 (B) 0.0
(C) 1.0 (D) –1.0

Q2 The ascending order Of Precedence of below Operators is _____

1. not in
2. <<
3. not
4. ^

(A) 3, 2, 1, 4 (B) 3, 1, 2, 4
(C) 3, 1, 4, 2 (D) 2, 4, 1, 3

Q3 The result after evaluating the below expression in Python is _____

result = 14 & 4 + 5 << 2 ^ 19 + 3 // 7 – 3 >> 4

Q4 Match The Following Operators with their associativity.

LIST-I	LIST-II
A. ** (Exponentiation)	1. Left To Right
B. & (Bitwise AND)	2. Right To Left
C. is not (Identity)	
D. = (Assignment)	

(A) A-1, B-2, C-2, D-1
(B) A-2, B-2, C-1, D-1
(C) A-2, B-1, C-2, D-2
(D) A-2, B-1, C-1, D-2

Q5 The output of below code segment is _____

```
a = 0° 63
b = a<<2
c = a>>3
print(b+c)
```

Q6 What will be printed by below Python Code?

```
i = 0 x A E 1
j = i & 152
k = j | 100
print (k)
```

(A) 344 (B) 00344
(C) 0xe4 (D) 228

Q7 What will be the value of result in the below code?

```
x = 0b01010110
y = 0x123
z = 42
result=x+y-z
```

(A) 517 in octal
(B) 517 in decimal
(C) 1f4 in hexa decimal
(D) 335 in in decimal

Q8 What will be the value of k in the below code?

```
i = –13.5
j = 5
k = i % j
print (k)
```

(A) 0.0 (B) 1.5
(C) 3.5 (D) –1.5

Answer Key

Q1	C
Q2	C
Q3	101~101
Q4	D
Q5	51~51
Q6	C
Q7	A
Q8	B

Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

e = a // b

e = 5.5// 2.0

e = $\lfloor 2.75 \rfloor$ = 2.0

f = d // c

– 2.0 // 2 = – 1.0

e + f = 2.0 – 1.0

= 1.0

Q2 Text Solution:

Precedence

exponents

Unary

*,1,11,%

+, –

<<, >>

%

^

I

comparison , identity membership

Not

ADN

OR

Q3 Text Solution:

h << k

= n × 2^k

h × k

= h // 2^k

14 & 4 + 5 << 2 ^ 19 + 0 – 3 >> 4

14 & 9 << 2 & 16 >> 4

14 & 36 ^ 1

4 ^ 1 = 5

$$\begin{array}{r} 0011100 \\ \& \ 100100 \\ \hline 000100 = 4 \end{array}$$

$$\begin{array}{r} 100 \\ \wedge \ 001 \\ \hline 101 \end{array}$$

Q4 Text Solution:

LIST-I	LIST-II
A. ** (Exponentiation)	2. Right To Left
B. & (Bitwise AND)	1. Left To Right
C. is not (Identity)	1. Left To Right
D. = (Assignment)	2. Right To Left

Q5 Text Solution:

h << k

= n × 2^k

a = 51

b = 51 × 2^2

= 51 × 4

= **204**

O_0 ⇒ octal

O_X ⇒ hexadecimal

O_b ⇒ binary

6 3

8°

2^1

c = a >> 3

51 // 8

= 6

h >> k

= h // 2^k

6 × 8^1 + 3 × 8^0

= 48 + 3 = 51

Q6 Text Solution:

O_x ⇒ hexadecimal

10011000

2	152
2	76
2	38
2	19
2	9
2	4
2	2
	1

$$
\begin{array}{l}
i = 101011100001 \\
\&\ \ 000010011000 \\
\hline
\quad 000010000000 \\
\hline
\end{array} = 128
$$

$$
\begin{array}{r}
10000000 \\
01100100 \\
\hline
11100100 \\
\hline
\end{array}
$$

011 228 344

Q7 Text Solution:

86 + 291 – 42

337 – 42 = 335

$$0\quad 1\quad 0\quad 1\quad 0\quad 1\quad 1\quad 0$$

$$2^6\quad 2^5\quad 2^4\quad 2^3\quad 2^2\quad 2^1\quad 2^0$$

64 + 16 + 4 + 2 = 86

$$y = 1\quad 2\quad 3$$

$$16^2\quad 16^1\quad 16^0$$

256 + 132 + 3

$$
\begin{array}{r}
256 \\
32 \\
3 \\
\hline
291 \\
\hline
\end{array}
$$

Q8 Text Solution:

k = i o / oj

– 13.5 % 5

(– 15 + 1.5)% 5

–15% 5 + 1.5 % 5

= **1.5**

a % b = a

a < b

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