

Operator MCQ Question

Unary operators

Increment

Syntax = Variable ++
 $a = 10$
 $a++ \Rightarrow a = 10 + 1$
 $= 11$

Decrement

Syntax = Variable --
 $a-- \Rightarrow a = 10 - 1$
 $= 9$

Increment

Pre

++a

* ✓
Pre = 1st change the value and Print

Post

a++

Post \Rightarrow original value
Print and then value change

Decrement

Pre

--a

Post

a--

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Pre-increment (Real coding)

① ~~int x = 10;~~ ^{return}
 → ② ~~int y = x + 1;~~ ^{// 10}
 ③ ~~printf("x: %d", x);~~ ^{// 11}
 ④ ~~printf("x: %d", y);~~ ^{// 10}

② ~~y = x --;~~ ^{// 10}

③

x = 9

④

y = 10

output?

x ~~10~~ 11

y 10

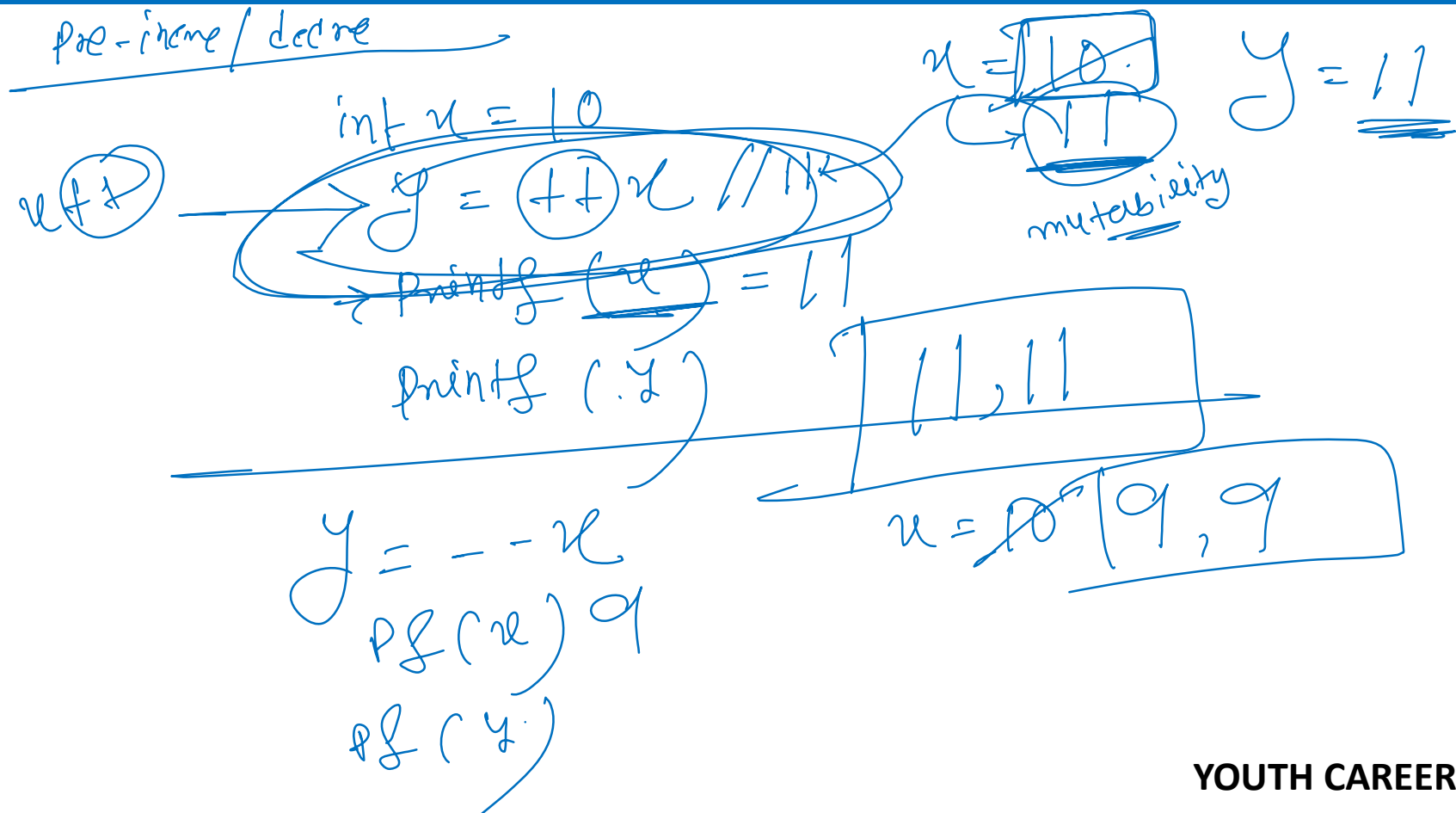
y = x ~~++~~ ^{post increment}

output
11, 10

x++
x = 10
11

x = 10, y = x-- ^{post dec}
 y = 10

Operator MCQ Question



Operator MCQ Question

entirely logical
PRA

Call

 ~~$u = 10$~~

1112

12

12

10

10

11, 12, 10

$\oplus n = 12 \oplus 13$

$u = 12$
 $u + \bar{u}$
 $u = 12$

Operator MCQ Question

ex) $2 + 3 * 4$
 $= 2 + 12$
 $= 14$

$(2 + 3) * 4$
 $= 5 * 4$
 $= 20$

ex) Same precedence
 $2 + 3 - 4$
 $= 5 - 4$
 $= 1$

~~Operator Precedence~~

Precedence

1. () \rightarrow High

2. * / %

3. + -

4. =

Associativity

\rightarrow Left to Right

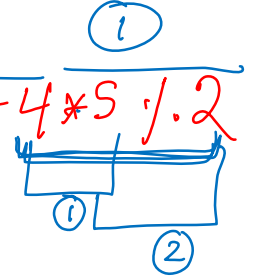
\rightarrow L to R

\rightarrow L to R

\rightarrow R to L ex) $2 + 3 - 4 * 5 / 2$

$= 2 + 3 - 20 / 2$
 $= 2 + 3 - 10$
 $= 5 - 10 = -5$

$2 / 20 / 10$
 $20 / 10 = 2$
 $2 / 2 = 1$
 quo
 rem



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Operator MCQ Question

①

```
int main()
{
    → int a = -3;
    → a = -a - a + !a;
    → printf("%d\n", a);
    return 0;
}
```

concept

6

$$a = -3$$

$$a = -a - a + !a$$

$$= -(-3) - (-3) + !(-3)$$

$$= 3 + 3 + \underline{!(-3)}$$

$$= 3 + 3 + 0 \quad [\because a = !a = 0]$$

$$= 6 + 0$$

$$\boxed{a = 6}$$

! logical not
!(-a)
!a
= 0

Operator MCQ Question

②

```
int main()
{
    int a=2, b=1, c,d;
    c=a<b;
    d=(a>b) && (c<b);
    printf("c=%d, d=%d\n",c,d);
    return 0;
}
```

True = 1
False = 0
C

a = 2 b = 1 c 0 d 1

c = a < b
c = 2 < 1
c = false = 0

0, 1
ans

d = (a > b) and (c < b)
= (2 > 1) and (0 < 1)
= T and T
d = T = 1

Operator MCQ Question

3

```
int main()
{
    → int a=5;
    → a=6;
    → a=a+5*a;
    printf("a=%d\n",a);
    return 0;
}
```

$a = 5$

$a = 56$

$$a = a + 5 * a$$
$$= 6 + 5 * 6$$

$$= 6 + 30$$

$$a = 36$$

ans

~~int a=5;~~
~~a=6;~~
~~a=a+5*a;~~
~~printf("a=%d\n",a);~~
~~return 0;~~
~~}~~

Operator MCQ Question

```
④ int main()
{
    → int a=5, b=5;
    1 printf("%d, %d", ++a, b--);
    2 printf("%d, %d", a, b);
    3 printf("%d, %d", ++a, b++);
    4 printf("%d, %d", a, b);
    return 0;
}
```

$a = 5$
~~6~~
7

$b = 5$
~~4~~
5

Operator MCQ Question

```

1 int main()
  {
    → int x,y,z;
    x=8++;
    y=++x++;
    z=(x+y)--;
    printf("%d, %d, %d", x,y,z);
    return 0;
  }
  
```

#concept

Error

x y z

1
 a = 8
 u = a++
 constant
 unary operator
 constant
 no use in

u = a
 ↓
 variable

(a) 10120110, (b) 2011011
 (c) null (d) error

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Operator MCQ Question

Q

```
int main()
```

```
{
```

```
→ int a=4, b=8, c=3, d=9, z;
```

```
→ z = a++ + ++b * c-- --d;
```

```
printf("a=%d, b=%d, c=%d, d=%d, z=%d\n", a, b, c, d, z);
```

```
return 0;
```

```
}
```

$$c = \cancel{3} \rightarrow 2$$

$$a = \cancel{4} \rightarrow 5$$

$$b = \cancel{8} \rightarrow 9$$

$$c = \cancel{3} \rightarrow 2$$

$$a = 5, b = 9, c = 2, d = 8$$

$$d = \cancel{9} \rightarrow 8$$

$$\begin{aligned}
 z &= a++ + ++b * c-- --d \\
 &= 4 + 9 * 3 - 8 \\
 &= 4 + 27 - 8 \\
 &= 31 - 8 = 23
 \end{aligned}$$

$$z =$$

Operator MCQ Question

```
① int main()
{
    → int a = 14, b, c;
    → a = a % 5;
    → b = a / 3;
    → c = a / 5 % 3;
    printf("a = %d, b = %d, c = %d\n", a, b, c);
    return 0;
}
```

$$5 \overline{) 14} \begin{array}{r} 2 \\ 10 \\ \hline 4 \end{array}$$

$$a = 14$$
$$a = a \% 5$$
$$= 14 \% 5$$
$$a = 4$$

$$b = 1$$

$$c = 0$$

$$4 \% 5 = 4$$

$$c = a / 5 \% 3$$
$$= 4 / 5 \% 3$$
$$= 0 \% 3$$
$$c = 0$$

$$b = a / 3$$
$$= 4 / 3$$
$$3 \overline{) 4} \begin{array}{r} 1 \\ 3 \\ \hline 1 \end{array}$$

$$3 \overline{) 4} \begin{array}{r} 1 \\ 3 \\ \hline 1 \end{array}$$

$$3 \overline{) 0} \begin{array}{r} 0 \\ 0 \\ \hline 0 \end{array}$$

Operator MCQ Question

```
8) int main()
{
    int x,y,z,k=10;
    → k += (x=5,y=x+2, z=x+y);
    printf("x=%d, y=%d, z=%d, k=%d\n",x,y,z,k);
    return 0;
}
```

$$k + 2$$

$$k = k + 2$$

$$x=5 \quad y=7 \quad z=12 \quad k=10$$

$$x=5 + y=7 - z=12$$

$$k + = (x=5, y=x+2, z=x+y)$$

$$\Rightarrow k = k + (x=5, y=7, z=12)$$

$$= 10 + (x=5, y=7, z=12)$$

$$= 10 + 12 = 22$$

Operator MCQ Question

~~9~~ ~~int main()~~ ~~{~~
~~int a = 15, b = 13, c = 16, x, y;~~
~~x = a - 3 % 2 + c * 2 / 4 % 2 + b / 4;~~
~~y = a = b + 5 - b + 9 / 3;~~ ~~a~~
~~printf("x=%d, y=%d\n", x, y);~~
~~return 0;~~
~~}~~

~~printf(a)~~

~~a = 15~~ b = 13 c = 16 x = 17 y = 8

$$\begin{aligned}
 x &= a - 3 \% 2 + c * 2 / 4 \% 2 + b / 4 \\
 &= 15 - 3 \% 2 + 16 * 2 / 4 \% 2 + 13 / 4
 \end{aligned}$$

(1) (2) (3) (4) (5)

~~= 0~~

$$\begin{aligned}
 &= 15 - 1 + 32 / 4 \% 2 + 13 / 4 \\
 &= 15 - 1 + 8 \% 2 + 13 / 4 \\
 &= 15 - 1 + 0 + 13 / 4 \\
 &= 15 - 1 + 0 + 3 = 17
 \end{aligned}$$

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y = a

$$\begin{aligned}
 y &= b + 5 - b + 9 / 3 \\
 &= 13 + 5 - 13 + 9 / 3 \\
 &= 18 - 13 + 3 \\
 &= 5 + 3 = 8
 \end{aligned}$$

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