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Assignment no : 2

Q.1

→
```
int num = 20;
if (num > 20) {
    printf("num is greater than 20");
}
printf("num : %d \n", num);
```
(9)

→ Error :-
expected ')' before 'num'

Q.2 int a = 10, b = 20;

→
```
if ((a && b++) && (a++ || ++b))
```
if
(10 && 20) && (10 || 21)
1 && 1

Don't care, because 1 || anything

∴ if (1) is executed

o/p :-
11
21
out of if

Q.3
```
int ilc = 15, olc = 25
if (olc > ilc) {
    printf("olc : %d \n", olc
}
if (ilc < olc); {
    printf("ilc : %d \n", ilc);
}
printf("olc : %d \n", olc);
printf("ilc = %d \n", ilc);
}
```

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→ First if is correct. Therefore its block get executed.
second if is followed by ; there below all line are executed.

```
olc : 25
ilc : 15
olc : 25
ilc : 15
```

Q.4
```
bool val = false , var = true
if (val) ; {
    printf ("true");
}
if (var) {
    printf (" false);
}
```

→ First if is followed by ; therefore next block is not part of it, and it get executed
second if is always true as it contain if(true) therfore it get executed.

✗ output :- true false
~~false~~

all above is correct if we write BOOl instead of bool in ☺

∴ output :- error
unknown type name 'bool' ; did you mean 'Bool'.

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Q.5 float x = 5.2 y = 10.5;

```
if (x == 5.2) {
    printf ("x: %d\n", x);

    if (y == 10.5); {
    printf("x:
    printf("y : %d\n", y);
}
```

→ first if get executed and second if is consider as it is inside it and it also get executed
Warning - using '%d' expect arg of type int but double
→ output : x = 5.2
y = 10.5

Q.5 →

first if doesn't get execute because float x = 5.2 internally it is 5.200000

output → No output

Q6 →

subval = 15;

if (subval++ && subval--)

15 && 15 ✓

∴ if (true)

{

}

output -
subval : 15
subval : 14

if (subval-- || ++subval) {

15 || anything

if (1) { ✓

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third if is followed by ; so don't care next printf get executed

output:
subval : 15
subval : 14
subval : 14

Q.7 weight = 50

→

if (50 < 50 && 50 > 30) X
X ✓

if (~~we~~ 50 >= 50 && 50 <= 70) ✓
pf ("you are well maintein");

if (50 > 70); X

pf ("you are overweight you have to work hard");

→ op you are well maintein
you are overweight you have to work hard

Q8. year = 2020

if (year % 4 == 0 && year % 100 != 0 || year % 400 == 0) {
(2020 % 4 == 0 && year % 100 != 0 || ~~year~~ % 400 == 0
2020
~~true~~
: true && ~~false~~ || false
: true || false
= True

✓ ~~and~~ year is leap year

number = 10;

Q.9 if (number != 0 && number > 0)
(10 != 0 && 10 > 0) fail

if (10 < 0) fail

if (10 == 0) fail

if (10 % 4 == 0); fail

o/p
10 is divisible by 4

Q.9 → if (number != 0 && number > 0)
(10 != 0 && 10 > 0) ✓
now, number = -5

if (-5 < 0) ✓
now number = 0

if (0 == 0) ✓
now number = 15

if (number % 4 == 0); fail
but next part will execute

o/p: 10 is positive no
-5 is negative no
nuber is zero
15 is divisible by 4.

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Q.10 anum = 0

if (!0)
∴ if (1) ✓

now anum = 20
achar = 'T'

if (20 & 4 != 0)
(0 != 0) fail

if (20 == 0) fail

∴ output
Inside first if ---
after all if, values are 20 & T

Q.11 num1 = 20 num2 = 19

→

if (20 >= 19) ✓

if (20 == 19) X
|
else ✓
printf ("20 > 19") ✓

output : 20 > 19

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12) num = 120

if (120 % 2 == 0) ✓

if (120 % 3 == 0) ✓

if (120 % 5 == 0) ✓

o/p = 120 is divisible by 2
120 is divisible by 3
120 is divisible by 5

Q num = 30

if (30 % 2 == 0) ✓

if (30 % 3 == 0) ✓

if (30 % 5 == 0) ✓

o/p = 30 is divisible by 2
30 is divisible by 3
30 is divisible by 5

Q num = 76

if (76 % 2 == 0) ✓

if (76 % 3 == 0) ✗

else
pf(" not divisible by 3").

→ 76 is divisible by 2.
76 is not divisible by 3.

* num = 36

if (num%.2 == 0) ✓

if(num%.3 == 0) ✓

if (num%.5 == 0) ✗

:

else ✓

Output:- 36 is divisible by 2
36 is divisible by 3
36 is not divisible by 5.

Q-13 ~~f1=0~~ n1 = 10 n2 = 20 n3 = 30

if (10 >= 20 && n1 >= n3) ✗

if (20 >= 10 && 20 >= 30) ✗

if (30 >= 10 && 30 >= 20) ✓

o/p :- Largest number = 30

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* num = 36

if (num%.2 == 0) ✓

if(num%.3 == 0) ✓

if (num%.5 == 0) ✗

:

else ✓

Output:- 36 is divisible by 2
36 is divisible by 3
36 is not divisible by 5.

Q.13 ~~#0~~ n1 = 10 n2 = 20 n3 = 30

if (10 >= 20 && n1 >= n3) ✗

if (20 >= 10 && 20 >= 30) ✗

if (30 >= 10 && 30 >= 20) ✓

o/p :- Largest number = 30