8/1/25

Q. int i = 1;
while (i++ <= 1)
while (i++ <= 2);
printf ("%d", i);

1
True i=2 → True i=3, False i=4 ← False i=5

1 2 3 4

Ans: 5

Q. int i = 1;
while (++i <= 2)
while (i++ <= 3);
printf ("%d", i);

i = 1
Tr i=2 → T i=3, T i=4, F i=5 ← F i=6

Ans = 6

Q. a = printf ("one") + printf ("\ntwo") * printf ("\nthree");

"one" → 3
"\ntwo" → 4
"\nthree" → 6

a = 3 + 4 * 6
= 27

Printf ("%d", a);

* printf returns no of charaters

ans: one
two
three
27

Q. int a;
a = Printf ("%d Hello %d", 10, 200);

a = 5 + 5 = 10

printf ("\n%d", a);

ans: 10 Hello 200
10

Q. a = scanf ("%d %d", &b, &c);
printf ("%d", a);

100 200

ans: 2

* scanf return no of inputs

Q.
```
int x = 10;
int y = 10;

if (!(x ^ y))
printf ("x equal to y");

else
printf ("x not equal to y");
```

(^) bitwise XOR

Q. odd even using bitwise op.

```
int x = 5
if ((x & 1))
printf("odd");
else
printf ("even");
```

5 = 101
1 = 001
5 & 1 = 001 → True → odd

Q.
```
unsigned int max;
max = 0;
max = ~max;
printf ("Max value: %u", max);
```

for signed int MSB is sign bit

~10 (int 32 bits) (~) bitwise NOT

10 ⇒ 0000....1010
~10 ⇒ 1111....0101
1's comp → ....1010 + 1
2's comp ⇒ 0000....1011 ⇒ −11

15 = 0000....1111
~15 = 1111....0000 → number in 2s comp
1's comp = 0000....1111
+ 1
2s comp = 0000....10000
⇒ −16

~n = −(n+1)

Signed int → −32768 to +32767

for unsigned → 0 to 65535

∴ max 0000 .... 0000 (32 0's)

~max = 1111 .... 1111 → max value stored in unsigned int

↳ decimal = 4294967295