CS & IT ENGINEERING

Control flow statements

Programming in C

DPP 01 Discussion

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01 Question

02 Discussion

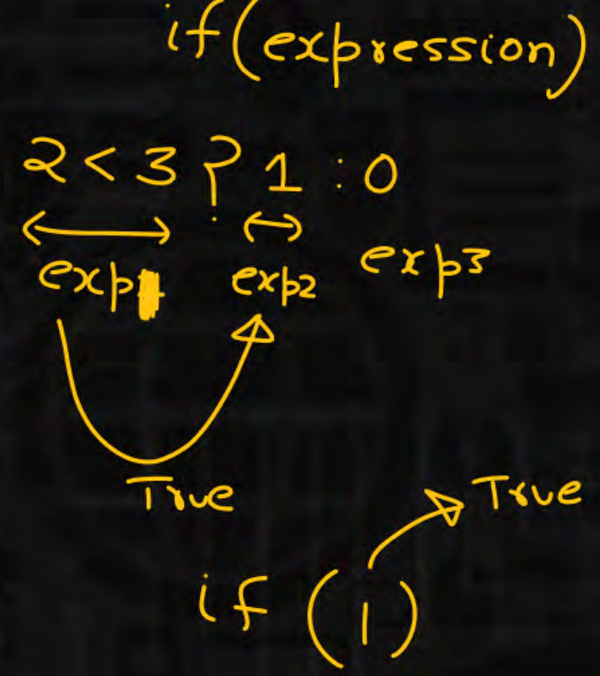
Q.1

```
#include <stdio.h>
int main(void){
    int i = 2, j = 3, k = 4;
    if (i < j ? 1 : 0)
                printf("GATE");
    else
                printf("Wallah2023");
    return 0;
}
```

The output of the program is GATE

i	j	k
2	3	4

[NAT]



Q.2

[MCQ]

```
#include <stdio.h>
void main( ){
    int a, b, c, d;
    a = 2; b = –1; c = 3; d = –4;
    if(a = b – c – d)
        printf("%d%d%d", a++, b--, c++);
    else
        printf("%d%d%d", c--, ++a, ++b);
    }
```

a	b	c	d
~~2~~ 0	~~1~~ 0	~~3~~ 2	-4

a = b - c - d
-1 - 3 - (-4)
: -4 + 4
a = 0 → Assignment

False

3 1 0

if (expression)
if (a = 0)
if (0) → False

The output is 310.

B

A. 1 -2 4

B. 3 1 0

C. 2 1 -3

D. 3 3 0

Q.3

[MCQ]

```
#include <stdio.h>
  int main(void){
  int a = 3 > 2 ? 0 ? 0 : 1 : 5;
  if(a = = a – 1)
        printf("GATE 2023");
  else
        printf("GATE WALLAH");
  return 0;
   }
```

The output of the program is _____.

a = 1

a = 3>2 ? 0 ? 0 : 1 : 5 ;

(3>2) ? (0 ? 0 : 1) : 5

True

exp1 — exp2 — exp3

(B)

a = 0 ? 0 : 1

a = 1

A. GATE 2023

B. GATE WALLAH

C. Compiler error

D. Garbage value

Q.4

[NAT]

```
#include <stdio.h>
   void main( ){
   int a;
        a = printf("GATE Wallah 2023");
   if(a%4 = = 0)
                a = a + 5;
   else
        a = a – 5;
   printf("%d", a++);
   }
```

16

a

21 → 16 → 22

21

16 % 4 = = 0

0 = = 0 True

The value of a at the end of the program is 22.

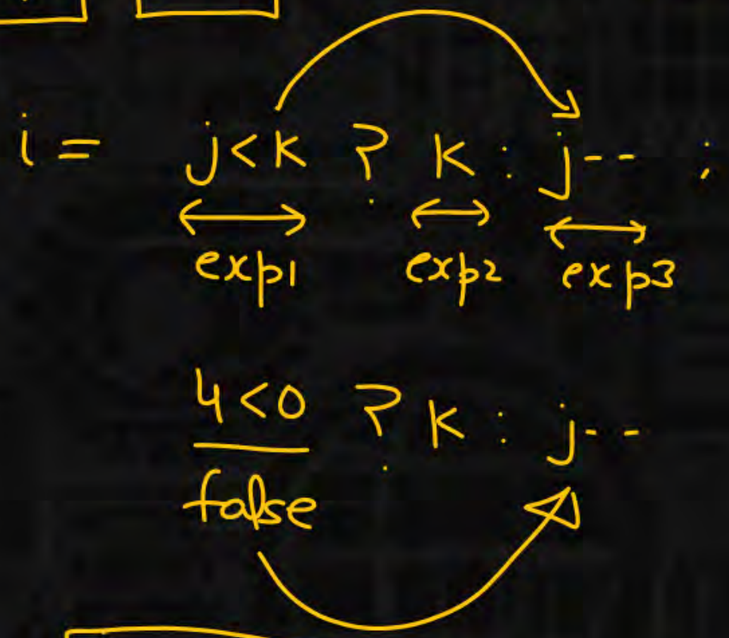
Q.5

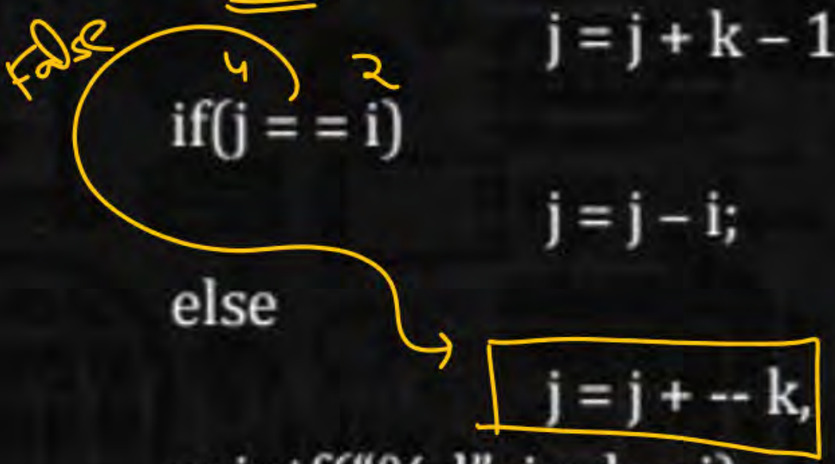
[NAT]

```
#include <stdio.h>
  void main( ){
  int i, j, k;
      j = 4;
      k = 0;
      i = j < k ? k : j --;
  if(j < i)
                  j = j + k – 1;
  if(j = = i)
                  j = j – i;
  else
                  j = j + -- k,
  printf("%d", j + k – i);
  }
```

The output is $\underline{-4}$.

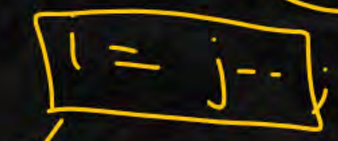
$j = 3 + 0 - 1 = 2$





$j = j + k - 1$

$1 + 1 - 4$



(i) use the value of j
(ii) Dec. the value

(i) $i = j$ $\quad i = 4$

(ii) $j = j - 1$;

$j = j + (--k)$ $\Rightarrow$ (i) $k = k - 1$

$j = j + k \Rightarrow j = 2 + (-1) = 2 - 1 = 1$

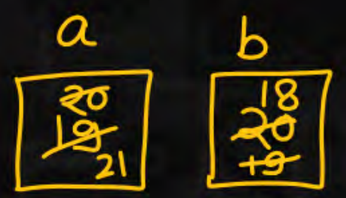
Q.6

[NAT]

Consider the following program:

```
#include<stdio.h>
    int main()
    {
            int a=19, b=20;
            if(a++<b--) printf("%d",a+++--b);
            else printf("%d", ++a+--b);
            return 0;
    }
```

The output is 38.



if (a++ < b--)

19 < 20 ⇒ True

a+++ --b

(a++) + (--b)

20 + 18

⇒ 38

Q.7

```
#include<stdio.h>
  void main()
  {
  int a=0;
  printf("%d", a);
  if(a=2){
     printf("Hi");
     printf("%d",a);
  }else{
     printf("Bye");
  }
  printf("%d", a);
  }
```

The output string is:

o/p: 0Hi22

[MCQ]

a = 2

(A) if(2)

A. 0Hi22

B. 0Hi20

C. 0Bye0

D. 0Hi00

Q.8

[MCQ]

```
#include<stdio.h>
  void main()
  {
    int a=0, b=0;
    a=(a=4)||(b=1);
    if(a&&b) printf("CProgramming");
    else printf("PankajSharma");
    printf("%d" ,b);
  }
```

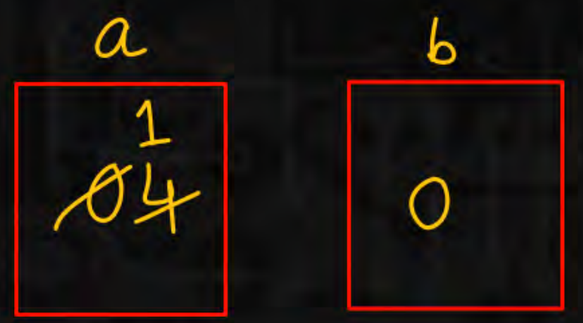
The output is-

A. Cprogramming0

B. CProgramming1

C. PankajSharma0

D. PankajSharma1



if (1 && 0)

if(0) ← false

PankajSharma0

a = (a=4)||(b=1)

a = 4 || (b=1) ✗

Short-circuit Eval.

never eval.

1


THANK YOU GW
SOLDIERS !