OnlineGDB beta

online compiler and debugger for c/c++

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Language C

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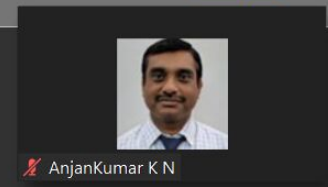Learn Programming

Programming Questions

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main.c

```c
1  /***********************************************************
2
3  Welcome to GDB Online.
4  GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, Ruby, Perl,
5  C#, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JS, SQLite, Prolog.
6  Code, Compile, Run and Debug online from anywhere in world.
7
8  ***********************************************************/
9  #include<stdio.h>
10  int main()
11  {
12
13      unsigned char a=22;
14
15
16      printf("a<<1 = %d\n", a<<1);
17
18
19
20      return 0;
21  }
```

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input

```
a<<1 = 44


...Program finished with exit code 0
Press ENTER to exit console.
```

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Language | C

main.c

```c
/*******************************************************************

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*******************************************************************/

#include <stdio.h>

int main()
{
    int x,num=22;
    x=num<<1;
    printf("%d \n",x);
    x=num<<2;
    printf("%d \n",x);
    x=num>>1;
    printf("%d \n",x);
    x=num>>2;
    printf("%d \n",x);
    return 0;
}
```

input

```
44
88
11
5

...Program finished with exit code 0
Press ENTER to exit console.
```

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```c
/***************************************************************

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***************************************************************/
#include <stdio.h>
int main()
{
int a = 10, b = 100;
float c = 10.5, d = 100.5;
printf("++a = %d \n", ++a);
printf("--b = %d \n", --b);
printf("++c = %f \n", ++c);
printf("--d = %f \n", --d);
return 0;
}
```
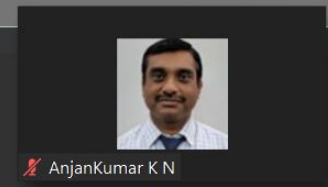
```
input
++a = 11
--b = 99
++c = 11.500000
--d = 99.500000

...Program finished with exit code 0
```

Language C

main.c

```c
/********************************************************

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*********************************************************/
#include<stdio.h>
int main()
{
int a = 5, b = 5, c = 10;
printf("%d == %d is %d \n", a, b, a == b);
printf("%d == %d is %d \n", a, c, a == c);
printf("%d > %d is %d \n", a, b, a > b);
printf("%d > %d is %d \n", a, c, a > c);
printf("%d < %d is %d \n", a, b, a < b);
printf("%d < %d is %d \n", a, c, a < c);
printf("%d != %d is %d \n", a, b, a != b);
printf("%d != %d is %d \n", a, c, a != c);
printf("%d >= %d is %d \n", a, b, a >= b);
printf("%d >= %d is %d \n", a, c, a >= c);
printf("%d <= %d is %d \n", a, b, a <= b);
printf("%d <= %d is %d \n", a, c, a <= c);
return 0;
}
```

input

```
5 >= 5 is 1
5 >= 10 is 0
5 <= 5 is 1
5 <= 10 is 1


...Program finished with exit code 0
Press ENTER to exit console.
```

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day1logicaloperator.c

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7
8  ***********************************************************/
9  #include <stdio.h>
10 int main()
11 {
12 int a = 5, b = 5, c = 10, result;
13 result = (a == b) && (c > b);
14 printf("(a == b) && (c > b) is %d \n", result);
15 result = (a == b) && (c < b);
16 printf("(a == b) && (c < b) is %d \n", result);
17 result = (a == b) || (c < b);
18 printf("(a == b) || (c < b) is %d \n", result);
19 result = (a != b) || (c < b);
20 printf("(a != b) || (c < b) is %d \n", result);
21 result = !(a != b);
22 printf("!(a != b) is %d \n", result);
23 result = !(a == b);
24 printf("!(a == b) is %d \n", result);
25 return 0;
26 }
27
```

input

```
(a == b) && (c > b) is 1
(a == b) && (c < b) is 0
(a == b) || (c < b) is 1
(a != b) || (c < b) is 0
!(a != b) is 1
!(a == b) is 0
```

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```c
/***************************************************************
 *
 *  Welcome to GDB Online.
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 *  Code, Compile, Run and Debug online from anywhere in world.
 *
 ***************************************************************/

#include<stdio.h>
int main()
{
    printf("Size of char is %ld byte\n",sizeof(char));
    printf("Size of int is %ld bytes\n",sizeof(int));
    printf("Size of float is %ld bytes\n",sizeof(float));
    printf("Size of double is %ld bytes\n", sizeof(double));
    return 0;
}
```

input

```
Size of char is 1 byte
Size of int is 4 bytes
Size of float is 4 bytes
Size of double is 8 bytes

...Program finished with exit code 0
```

```c
/***********************************************************************

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Code, Compile, Run and Debug online from anywhere in world.

***********************************************************************/
#include <stdio.h>

int main()
{

    int n1 = 5, n2 = 10, n3 = 15, max;

    max = (n1 > n2) ? (n1 > n3 ? n1 : n3) : (n2 > n3 ? n2 : n3);

    printf("Largest number among those  %d, %d and %d is %d\n", n1, n2, n3, max);

    return 0;
}
```

```
input
Largest number among those  5, 10 and 15 is 15


...Program finished with exit code 0
Press ENTER to exit console.
```

Question - 5

num = 22

binary equivalent of 22

```
2 | 22
2 | 11 - 0
2 | 5 - 1          22₍₁₀₎ = 10110₍₂₎.
2 | 2 - 1
2 | 1 - 0
    0 - 1
```

LEFT SHIFT OPERATOR

1) num << 1

∴ 10110 << 1

∴ 101100₍₂₎ = $2^0 \times 0 + 2^1 \times 0 + 2^2 \times 1 + 2^3 \times 1 + 2^4 \times 0 + 2^5 \times 1$
              = 4 + 8 + 32
              = 44

2) num << 2

10110 << 2

=> 1011000 = $2^0 \times 0 + 2^1 \times 0 + 2^2 \times 0 + 2^3 \times 1 + 2^4 \times 1 + 2^5 \times 0$
            $+ 2^6 \times 1$
            = 88

or The left shift of a << n is, $a \times 2^n$

∴ 22 << 1 = 22×2^1 = 44
  22 << 2 = 22×2^2 = 88

2> RIGHT SHIFT.

22 >> 1

=> 10110 >> 1

= 01011 $_{(2)}$ = $2^0 \times 1 + 2^1 \times 1 + 2^2 \times 0 + 2^3 \times 1 + 2^4 \times 0$

$1 + 2 + 0 + 8 + 0$

= 11

22 >> 2

=> 10110 >> 2

00101.1 = $2^0 \times 1 + 2^1 \times 0 + 2^2 \times 1 + 0 + 0 + 2^{-1} \times 1$
$_{(2)}$

= 1 + 4

= 5.5 ठी 5

On Right shift of a >> n is a/2^n

$\therefore$ 22 >> 1 = $22/2^1$ = 11

22 >> 2 = $22/2^2$ = 5.5 ठी 5