What is the output of the following C program fragment? Assume size of integer is 4 bytes.

```
#include <stdio.h>
int main()
{
    int i = 5;
    int var = sizeof(i++);
    printf("%d %d", i, var);
    return 0;
}
```

a) 5 4
b) 6 4
c) 5 8
d) Compiler error

C standard is the language specification which is adopted by all C compilers across the globe.

C99 is the older version of C standard adopted in 1999.
C11 is the latest revised version of C standard adopted in 2011.

According to C99 standard:

The sizeof operator yields the size (in bytes) of its operand, which may be an expression or a parenthesized name of a type. The size is determined from the type of the operand. If the type of the operand is a variable length array type, then the operand is evaluated; otherwise, the operand is not evaluated and the result is an integer constant.

Therefore, i++ inside sizeof is not evaluated

We will talk about variable length arrays later in this course.

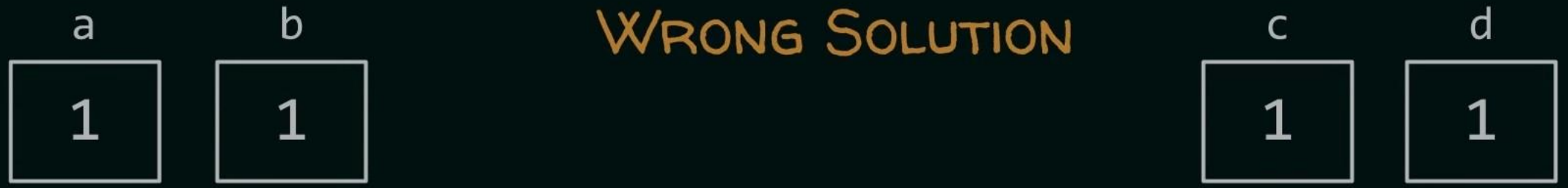
What is the output of the following C program fragment?

```
int a = 1;
int b = 1;
int c = ++a || b++;
int d = b-- && --a;

printf("%d %d %d %d", d, c, b, a);
```

a) 1 1 1 1
b) 0 1 0 0
c) 1 0 0 1
d) 1 1 0 1

Wrong Solution




```
c = ++a || b++;
```

2 1

T || T = T

```
d = b-- && --a;
```

2 1

T && T = T

```
printf("%d %d %d %d", d, c, b, a);
```

1 1 1 1

Right Solution

a	b
1	0

Because of short circuit, it will never get implemented.

```
c = ++a || b++;
```

2

T || anything = T

c	d
1	1

```
d = b-- && --a;
```

1 1

T && T = T

```
printf("%d %d %d %d", d, c, b, a);
```

1 1 0 1

Q1: Sizeof operator returns size in?

10

a) Bits
b) Bytes
c) Kilobytes
d) Megabytes

Answer: (b)

Q2: Which of the following is the correct inline declaration of variables?

a) int a; b; c;
b) int a, int b, int c;
c) int a, b, c;

Answer: (c)

Q3: What does printf function returns?

10

a) Size of integer
b) Size of character
c) Number of characters printed on the screen
d) Size of variable

Answer: (c)

Q4: ASCII decimal range of characters from A...Z is?

a) 65 - 90
b) 97 - 122
c) 100 - 127
d) 1 - 28

Answer: (a)

Q5: Size of integer?

10

a) 32 bytes
b) 8 bytes
c) 16 bytes
d) Depends from machine to machine

Answer: (d)

Q6: Consider the following variable declarations and definitions in C?

i) int 39 = 1;
ii) int var_39 = 2;
iii) int _ = 3;

Which of the following is correct?

a) Both i) and ii) are valid.
b) Only ii) is valid.
c) Both ii) and iii) are valid.
d) None of the above.

Answer: (c)

Q7: Consider the following lines.

```
int var;
extern int var;
```

Which of the following is correct?

a) Both statements only declare variables and not define them.
b) Both statements declare and define variables.
c) Statement 1 declares a variable and statement 2 defines a variable.
d) Statement 1 declare and define a variable and statement 2 just declare a variable.

Answer: (d)

Q8: Predict the output

```
# include <stdio.h>
int var = 5;
int main() {
    int var = var;
    printf("%d", var);
}
```

a) 5
b) Compiler error
c) Garbage value
d) None of the above

Answer: (c)

Q9: Predict the output

```
# include <stdio.h>
int main() {
    {
        int var = 10;
    }
    { printf("%d", var); }
}
```

a) 10
b) Compiler error
c) Garbage value
d) None of the above

Answer: (b)

Q10: Predict the output

```
# include <stdio.h>
int main() {
    unsigned int var = 10;
    printf("%d", ~var);
}
```

a) 10
b) -10
c) -11
d) -5

Answer: (c)