

CS & IT ENGINEERING

Programming in C
Data Types and Operators

DPP-01 Discussion Notes



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Programming in C

DPP-01

Data Types in C

Topics to be covered

DPP Discussion notes

[MCQ]

1. Consider the following declarations:

P: signed short x;

Q: unsigned long long int x;

Which of the given declarations is/are CORRECT?

(a) Only P

(b) Only Q

☒ (c) Both P and Q

(d) Neither P nor Q

☐ short x;
signed short x;
unsigned short x;

valid {
short x;
short int x ✓
signed short x;
signed short int x;

[NAT]

2. Consider the following program:

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    int x=32769;
```

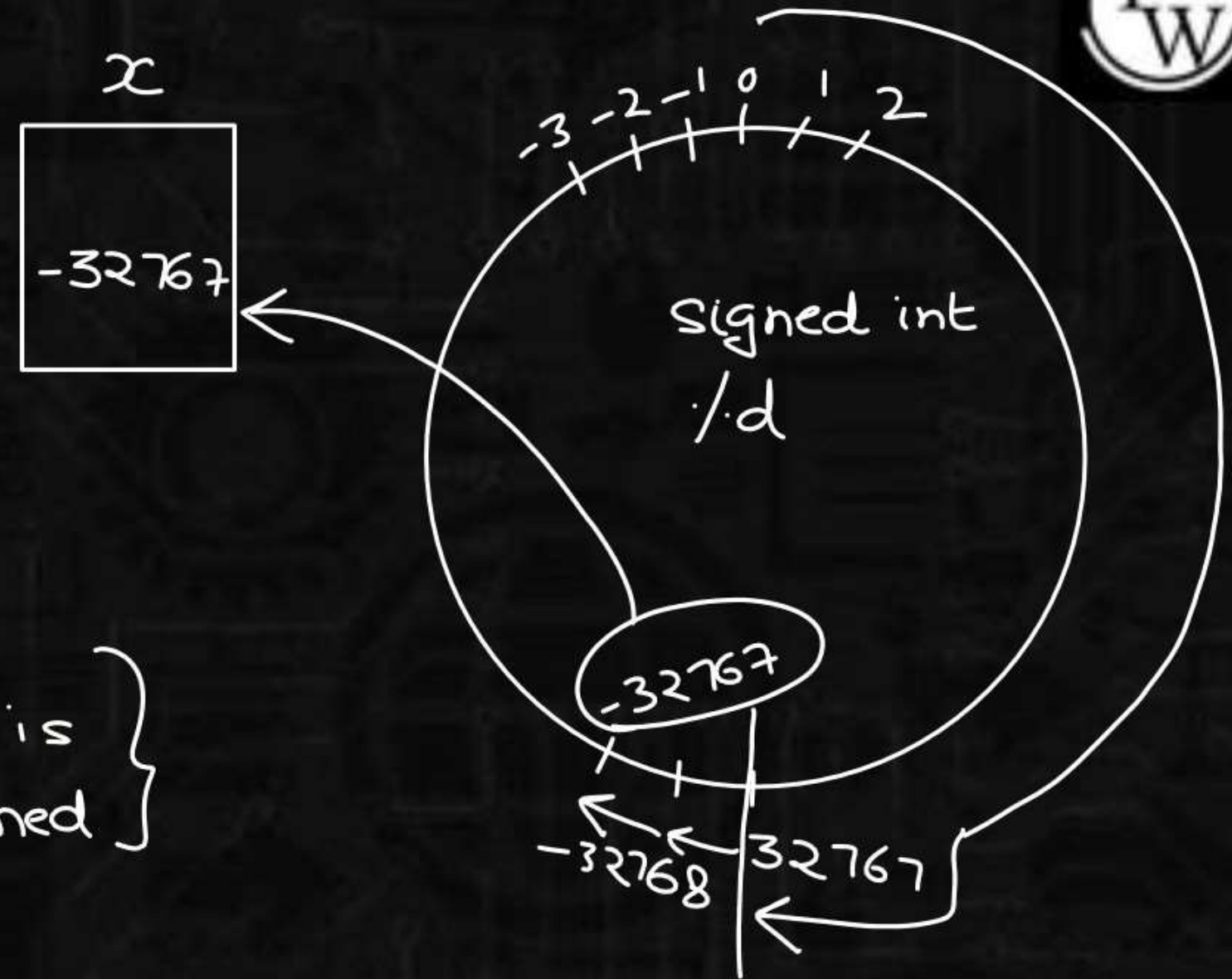
```
    printf("%d", x);
```

```
    return 0;
```

```
}
```

(Assume integer is of 2 bytes)

The value printed is- -32767.



[MCQ]

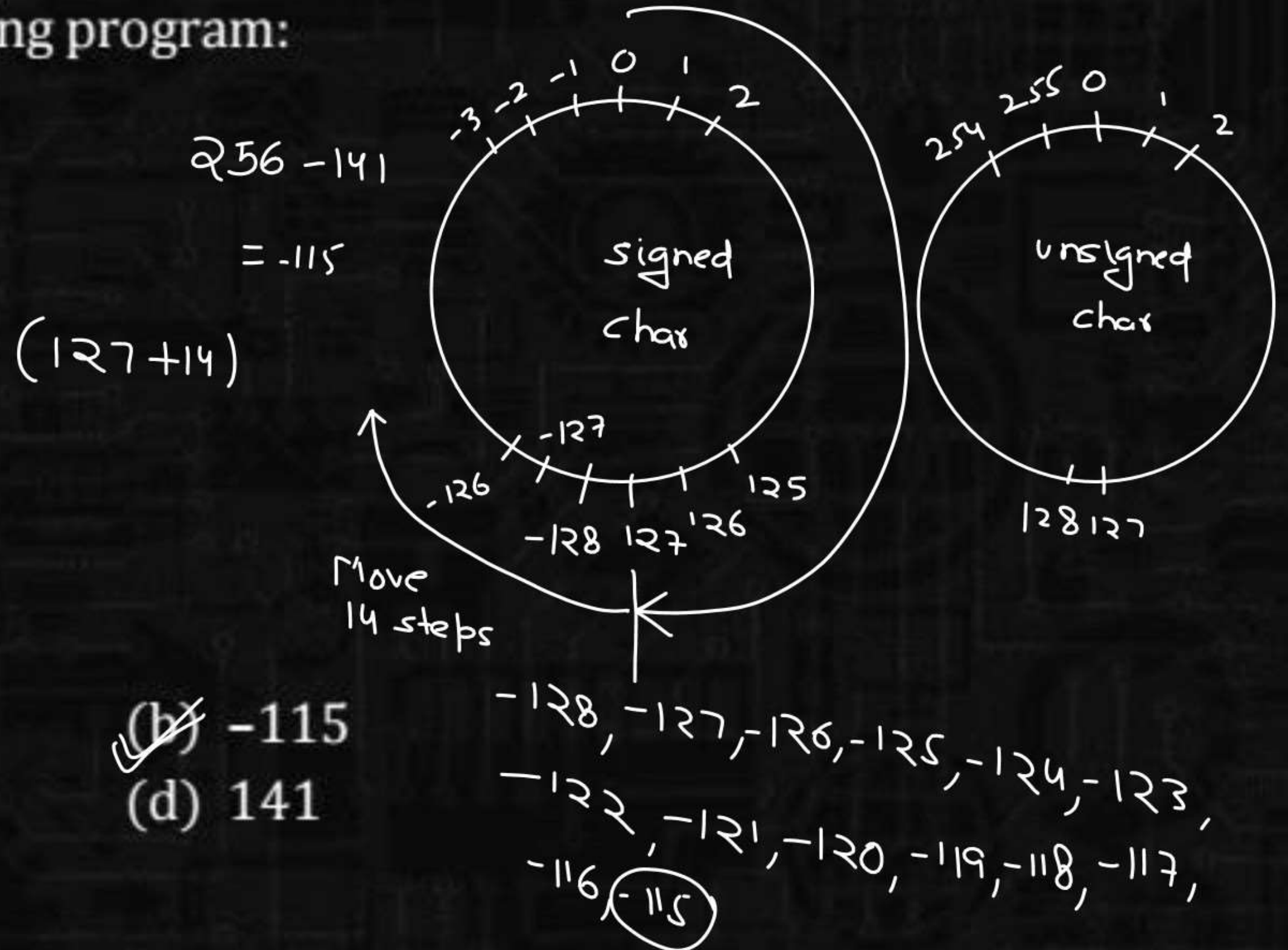
3. Consider the following program:

```
#include <stdio.h>
int main()
{
    char ch=141;
    printf("%d", ch);
    return 0;
}
```

The output is-

- (a) Compiler Error
- (c) -128

- (b) -115
- (d) 141



[MCQ]

4. Consider the following function:

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    char ch = -134; { by default: signed }
```

```
    printf("%c", ch);
```

```
    return 0;
```

```
}
```

The output is-

(a) A

(b) Garbage

(c) Compiler Error

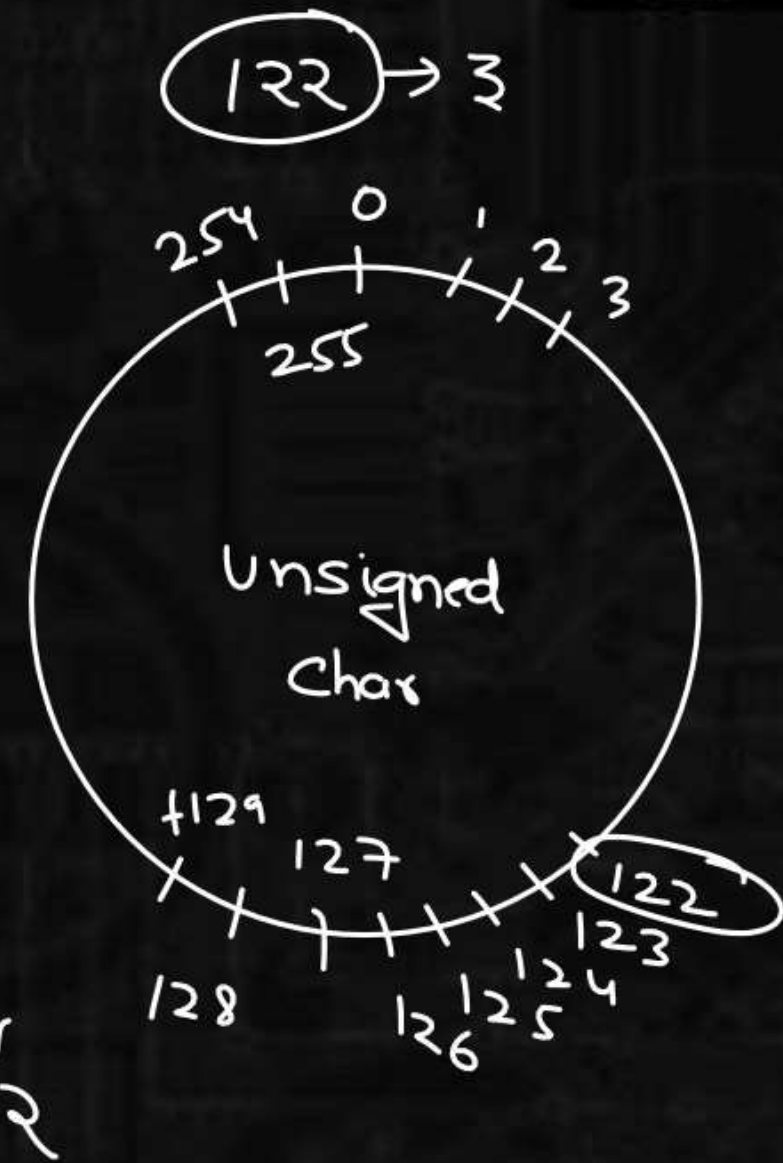
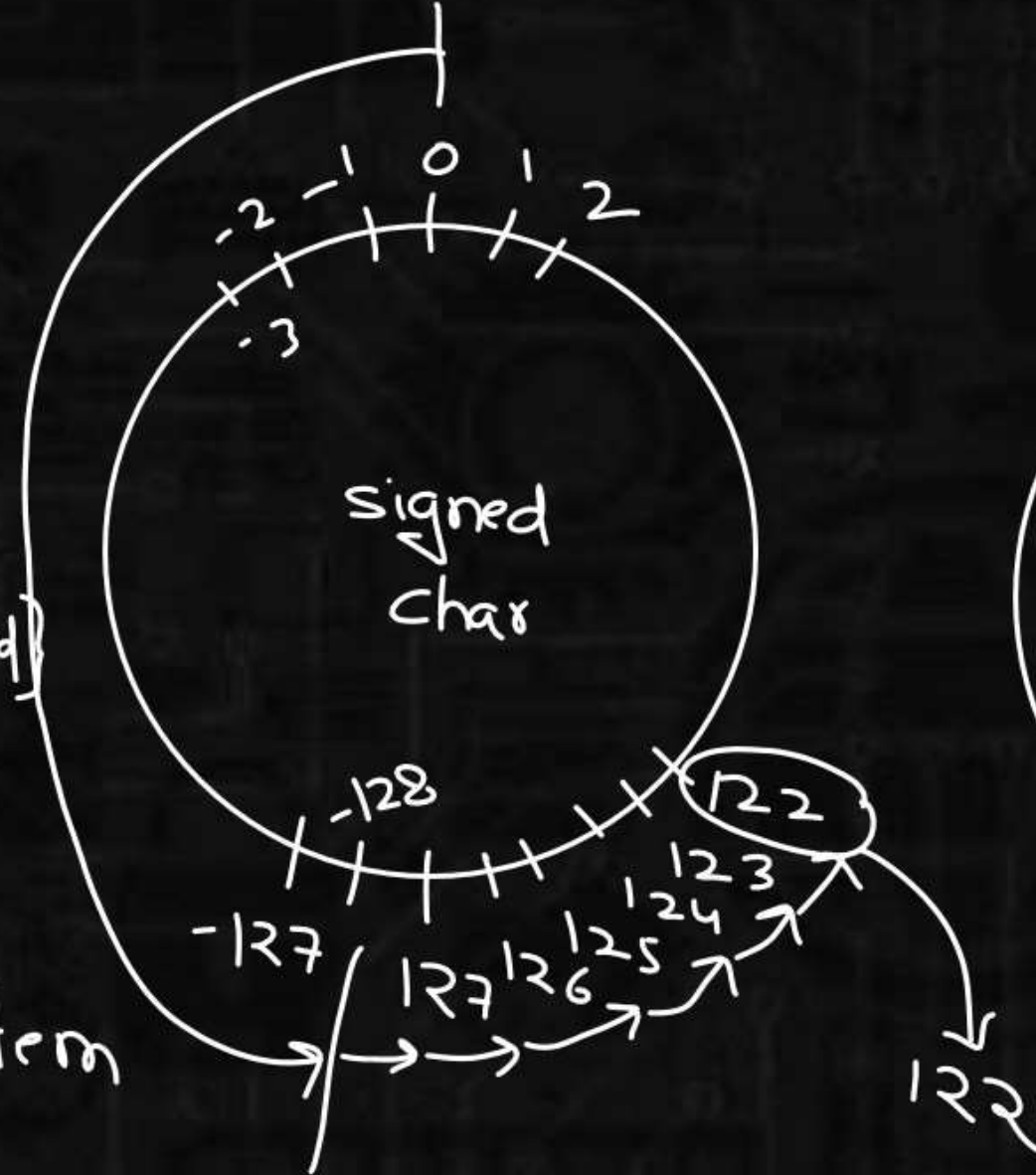
☒ (d) z

122

97 → a



122 → 3



122
ch

[NAT]

5. Consider the following program:

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    char ch=125;
```

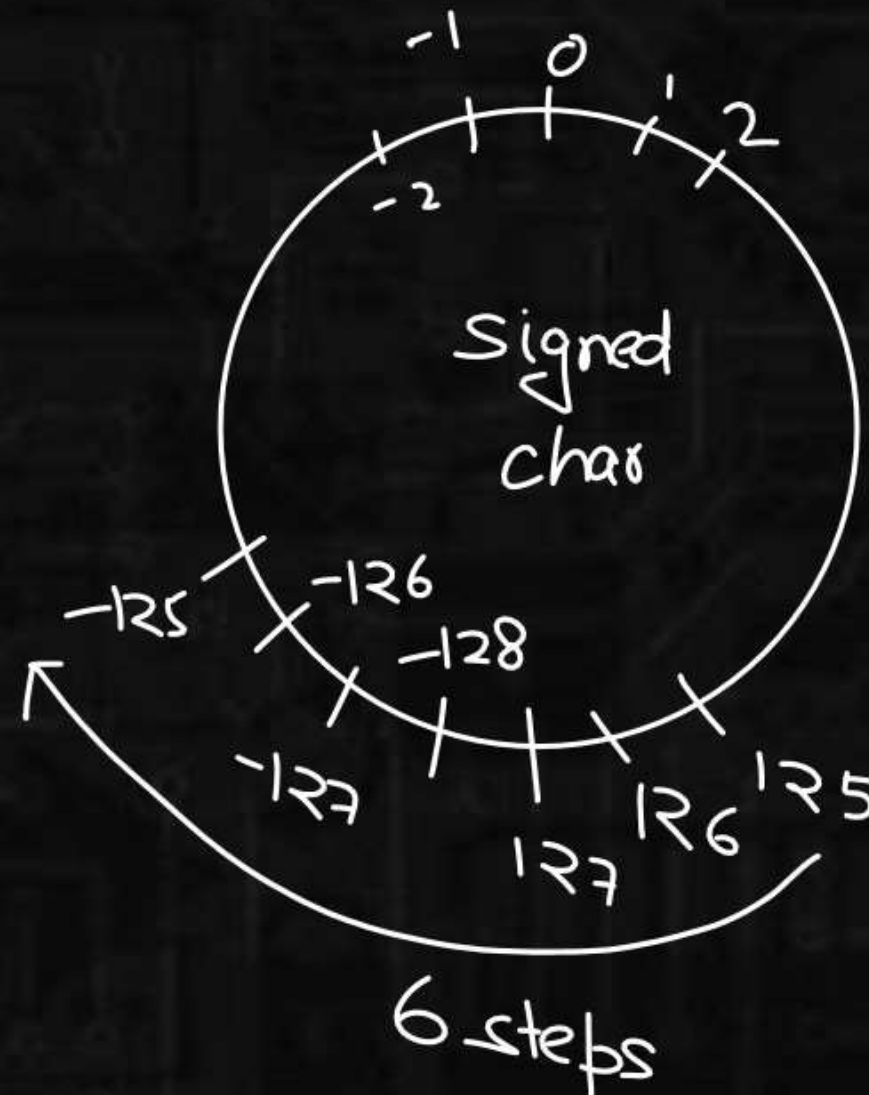
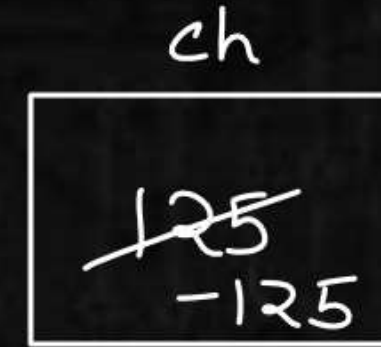
```
    ch=ch+6;
```

```
    printf("%d", ch);
```

```
    return 0;
```

```
}
```

The output is- -125.



[NAT]

6. Consider the following program:

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
int x=-32769;
```

```
printf("%d", x);
```

```
return 0;
```

```
}
```

(Assume integer is of 2 bytes)

The output is: 32767.

(1 less than -32768)

{ signed int }

32767

32767

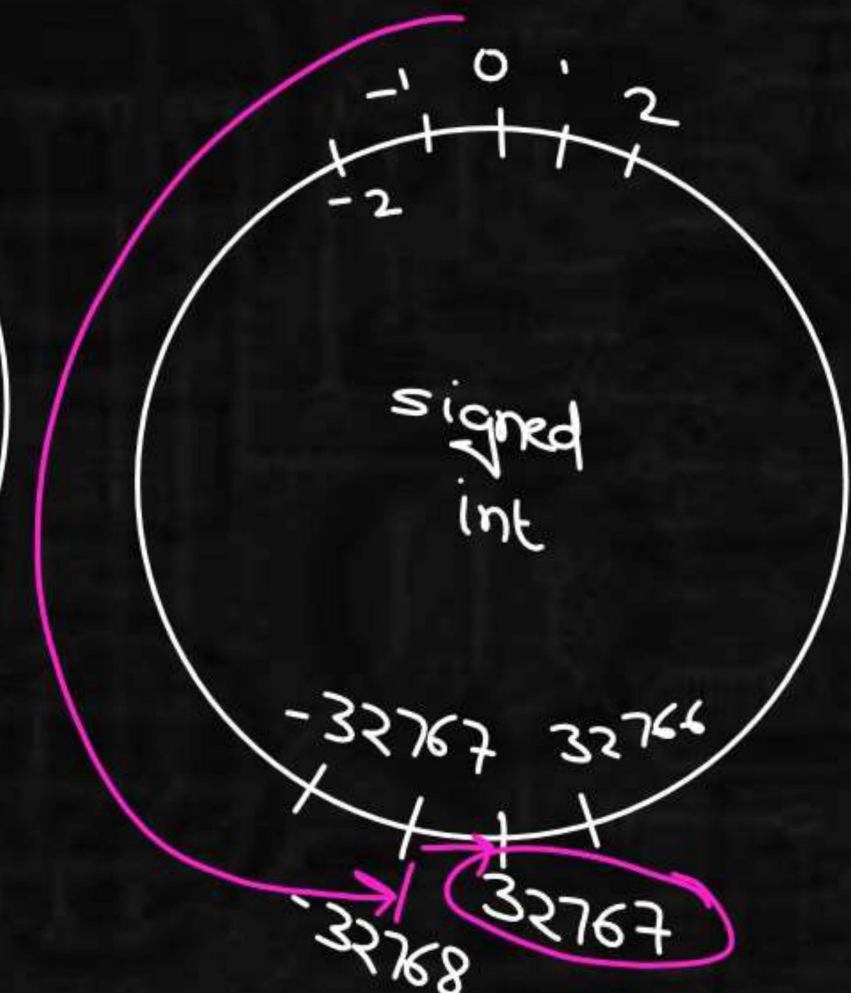
32 bits $\Rightarrow 2^{32}$

Signed int : -2^{31} to $2^{31}-1$

-32768 to +32767

Unsigned int : 0 to $2^{32}-1$

0 to 65535



[MCQ]

7. Consider the following two statements:

P: C standard specifies fixed number of bytes for every data type.

☒ Q: The size order for int, short and long data type is $\text{short} < \text{int} < \text{long}$

Which of the following statements is/are CORRECT?

(a) Only P

☒ (b) Only Q

(c) Neither P nor Q

(d) Both P and Q

[MSQ]

8. Which of the following is/are valid declaration of a signed short integer?

(a) short int a;

(b) short a;

(c) signed short a;

(d) signed short int a;

a, b, c, d

Signed }
int } optional

Signed short int x; ✓

short int x; ✓

Signed short x; ✓
short x; ✓

