Chapter 26

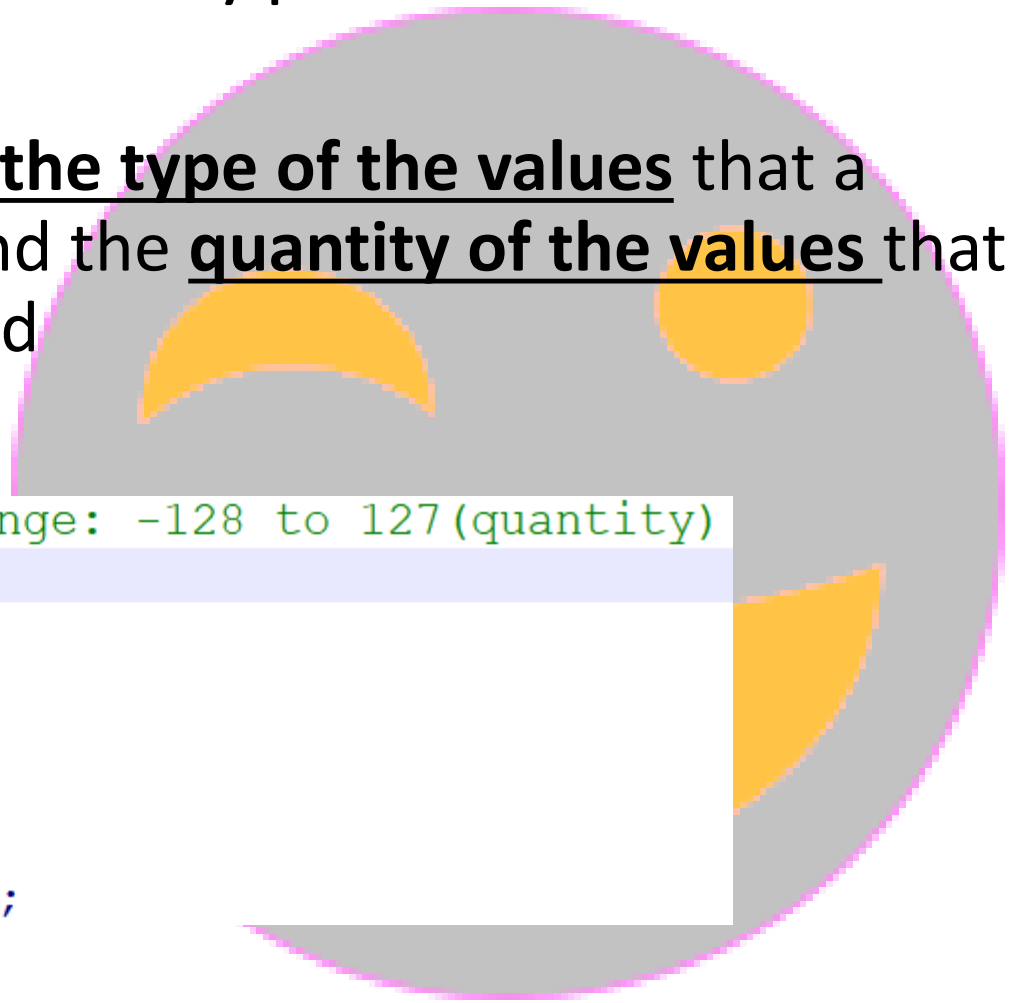
Interview questions on data types

20 Questions

- After each question, pause the video and try your own and keep your score card
- **Let’s see how many you can score out of 20**

1. What is a data type?

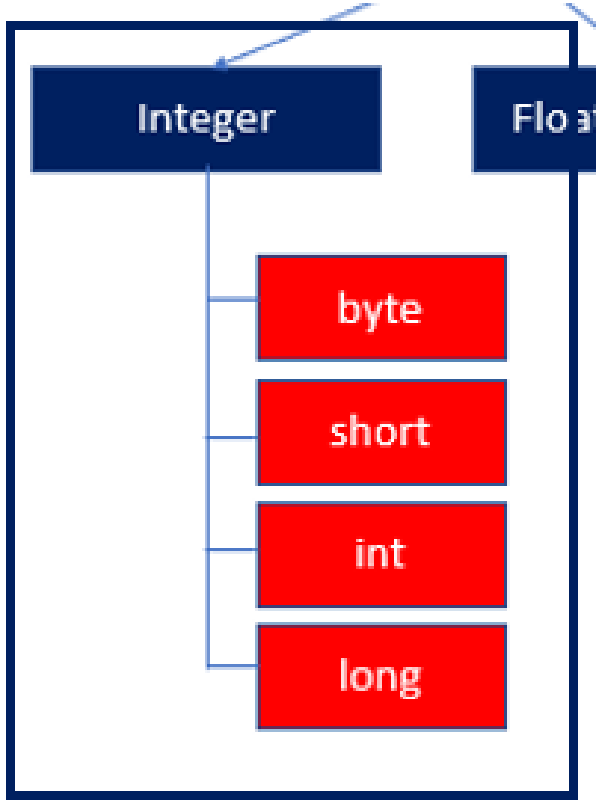
- Data type **specifies the type of the values** that a variable can hold and the **quantity of the values** that the variable can hold

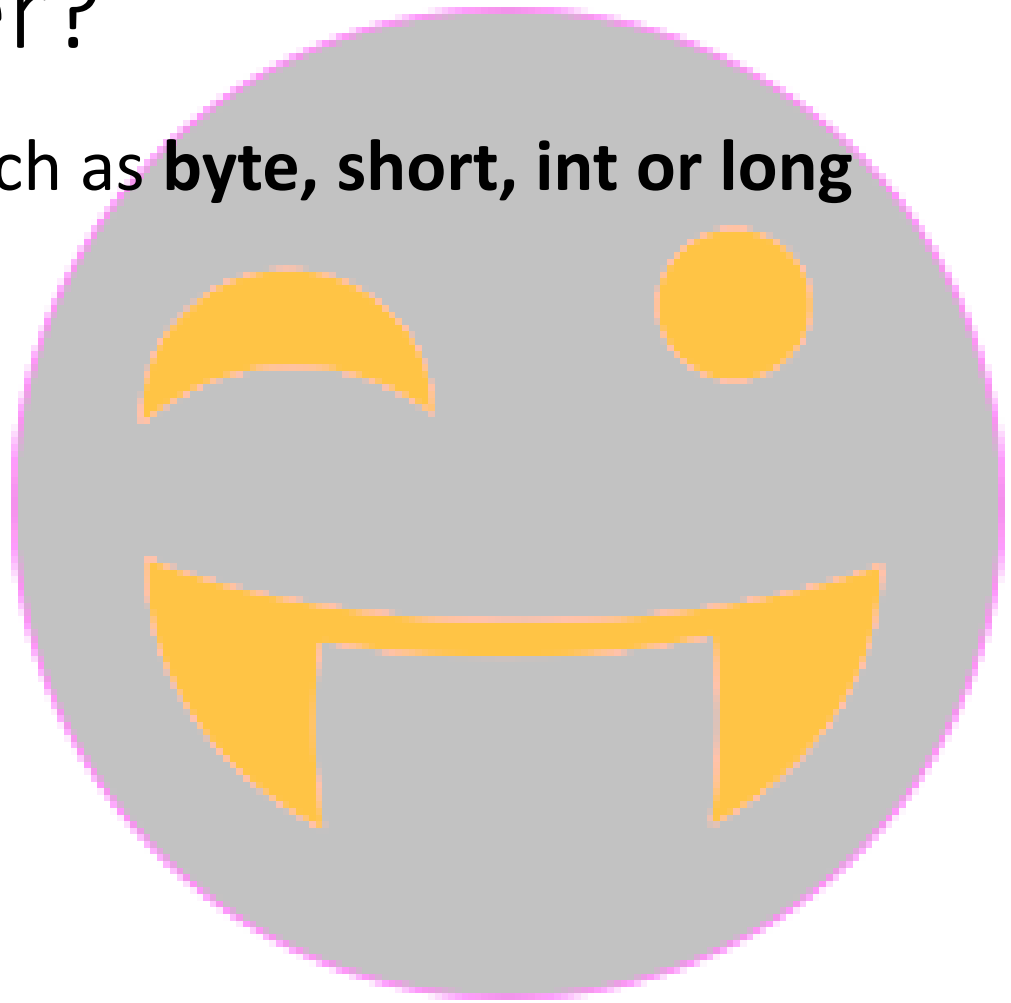


```
byte byteBasket; //Range: -128 to 127(quantity)
short shortBasket;
int intBasket;
long longBasket;
float floatBasket;
double doubleBasket;
char charBasket;
boolean booleanBasket;
```

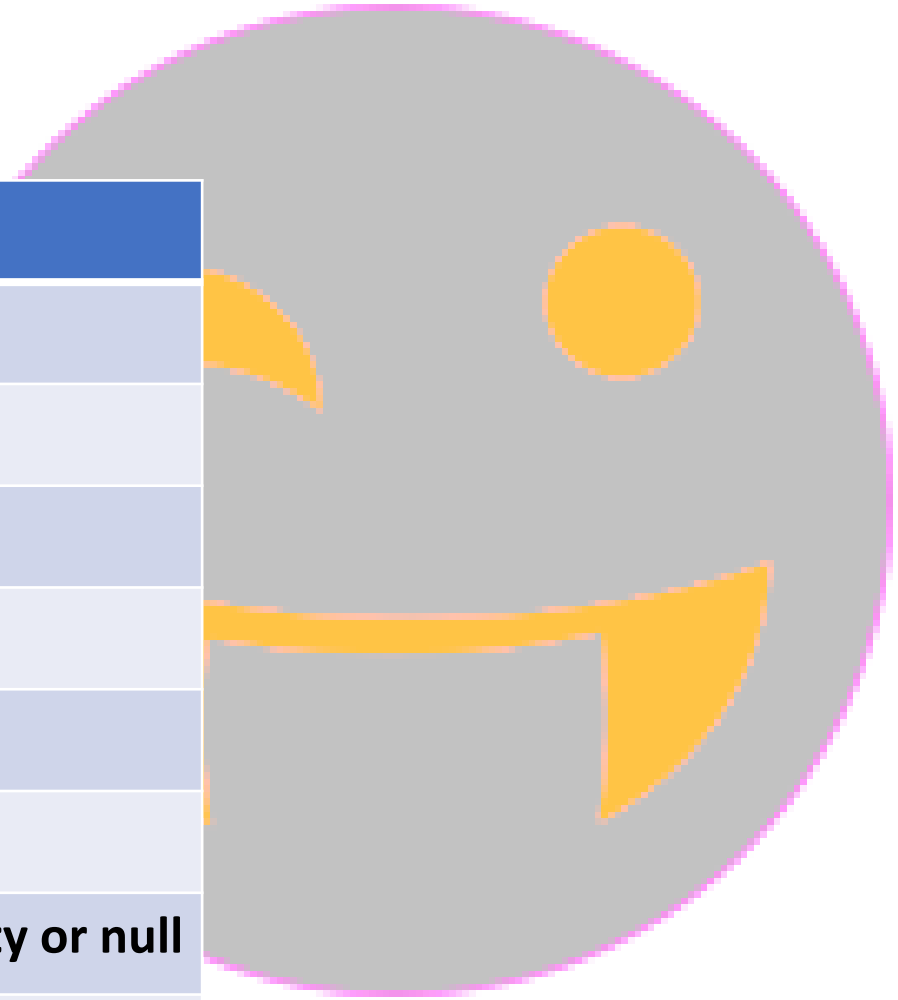
2. What data types will you use to represent a whole number?

Integer data types such as **byte, short, int or long**





3. What are the default values of 8 primitive data types?



Type	Default values
byte	0
short	0
int	0
long	0
float	0.0 / 0.0f
double	0.0 /0.0d
char	\u0000 or empty or null
boolean	false

4. What is the size in bits for an **int** data type

Type	Bit depth	Range	Default values
byte	1 byte(8 bits)	-2^7 to 2^7-1	0
short	2 bytes(16 bits)	-2^15 to 2^15-1	0
int	4 bytes(32 bits)	-2^31 to 2^31-1	0
long	8 bytes(64 bits)	-2^63 to 2^63-1	0
float	4 bytes(32 bits)	-3.4E38 to 3.4E38	0.0 / 0.0f
double	8 bytes(64 bits)	-1.7E308 to 1.7E308	0.0 /0.0d
char	2 bytes(16 bits)	0 to 65535	\u0000 or empty or null
boolean	Depends on the virtual machine	true or false	false

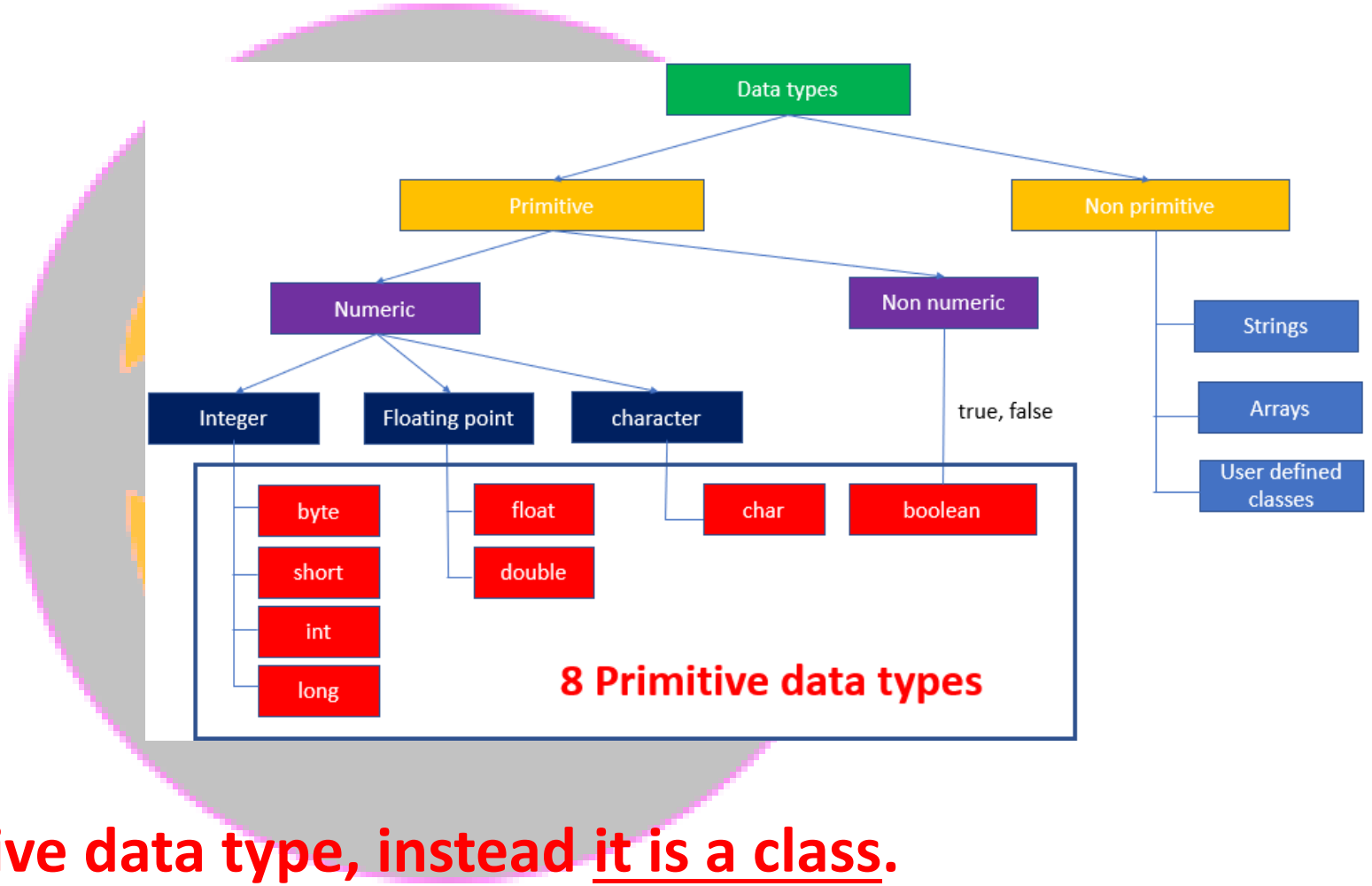
5. What is the size in bytes for long data type?

1. 4
2. 6
3. 8
4. 10

Type	Bit depth	Range	Default values
byte	1 byte(8 bits)	-2^7 to 2^7-1	0
short	2 bytes(16 bits)	-2^15 to 2^15-1	0
int	4 bytes(32 bits)	-2^31 to 2^31-1	0
Long	8 bytes(64 bits)	-2^63 to 2^63-1	0
float	4 bytes(32 bits)	-3.4E38 to 3.4E38	0.0 / 0.0f
double	8 bytes(64 bits)	-1.7E308 to 1.7E308	0.0 /0.0d
char	2 bytes(16 bits)	0 to 65535	\u0000 or empty or null
boolean	Depends on the virtual machine	true or false	false

6. Which of the following is not a primitive data type?

1. byte
2. short
3. String
4. long



String is not a primitive data type, instead it is a class.

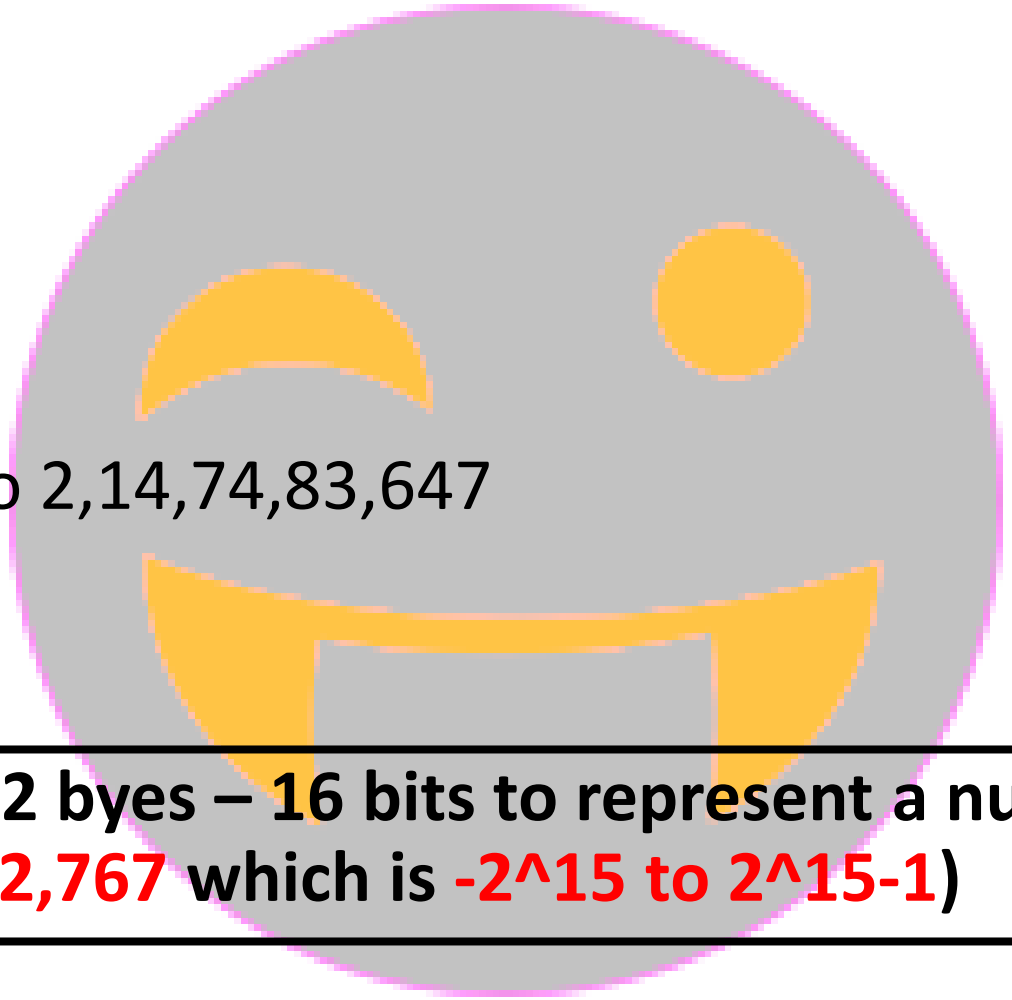
7. Which of the below is not an integer data type?

1. int
2. short
3. long
4. float

float is a floating point data type

8. What is the supported range for short data type?

1. -128 to 127
2. -32,768 to 32,767
3. 0 to 65535
4. -2,14,74,83,648 to 2,14,74,83,647



short data type uses 2 byes – 16 bits to represent a number in the range of -32,768 to 32,767 which is -2^15 to 2^15-1)

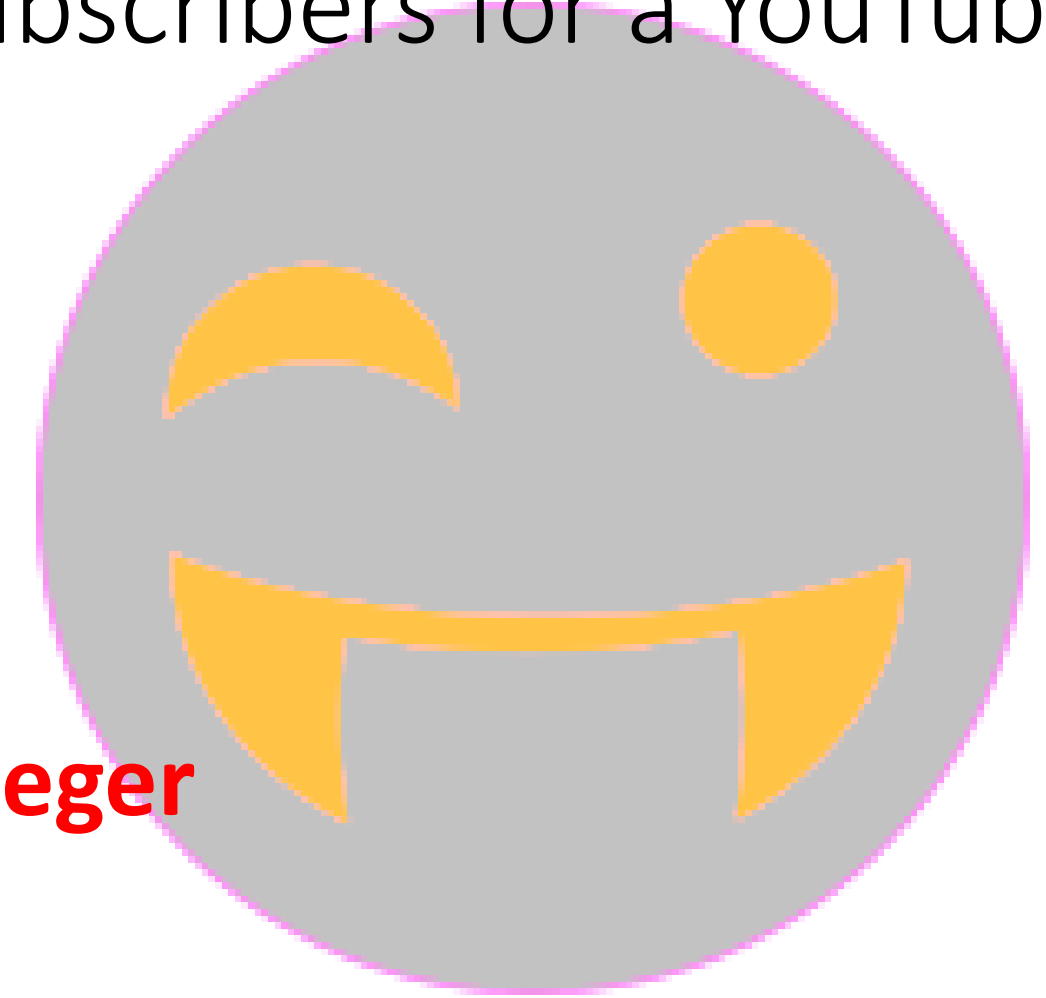
9. If the range of values for a certain information is 10 to 1000, which integer data type should we use?

1. byte
2. short
3. long
4. int

Range of byte : -128 to +127
Range of short : -32,768 to +32,767
Range of int : -2,147,483,648 to +2,147,483,647
Range of long : -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
byte will not be suitable. short, int and long are suitable but using short saves space

10. Choose appropriate data type for storing number of subscribers for a YouTube channel

1. byte
2. short
3. int
4. long



long or BigInteger

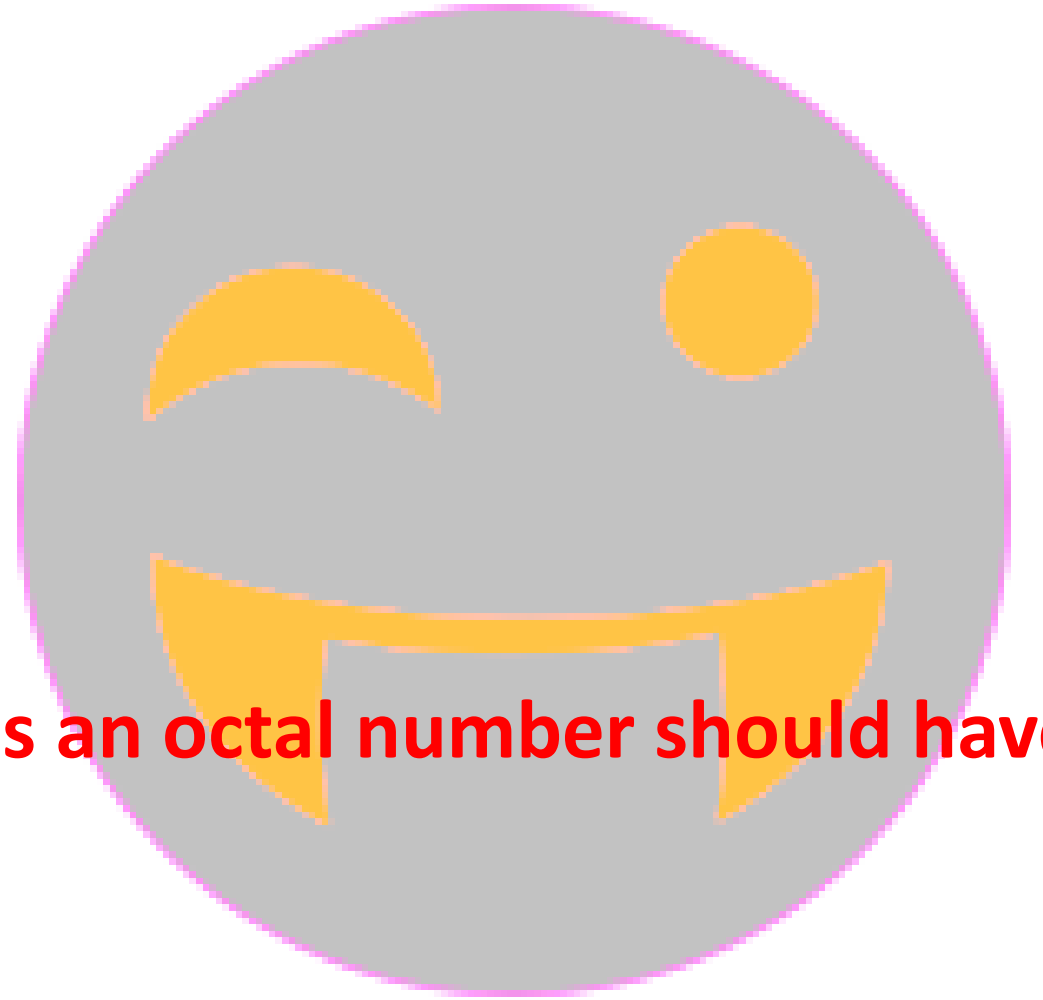
11. What is the size of char data type in bytes?

1. 1
2. 2
3. 4
4. 8

- **Java uses 2 bytes(16 bits) to represent a character**
- **-2^15 to 2^15-1**
- ~~**2^15 to 2^15-1**~~
- It is **16 bit unsigned** primitive data type
- **Range:** 0 to 2^16-1 (0 to 65535)
- So, essentially **characters are integers internally**

12. Which of the following is not a valid integer literal

1. 560
2. 0x3D3
3. 0790
4. 0342

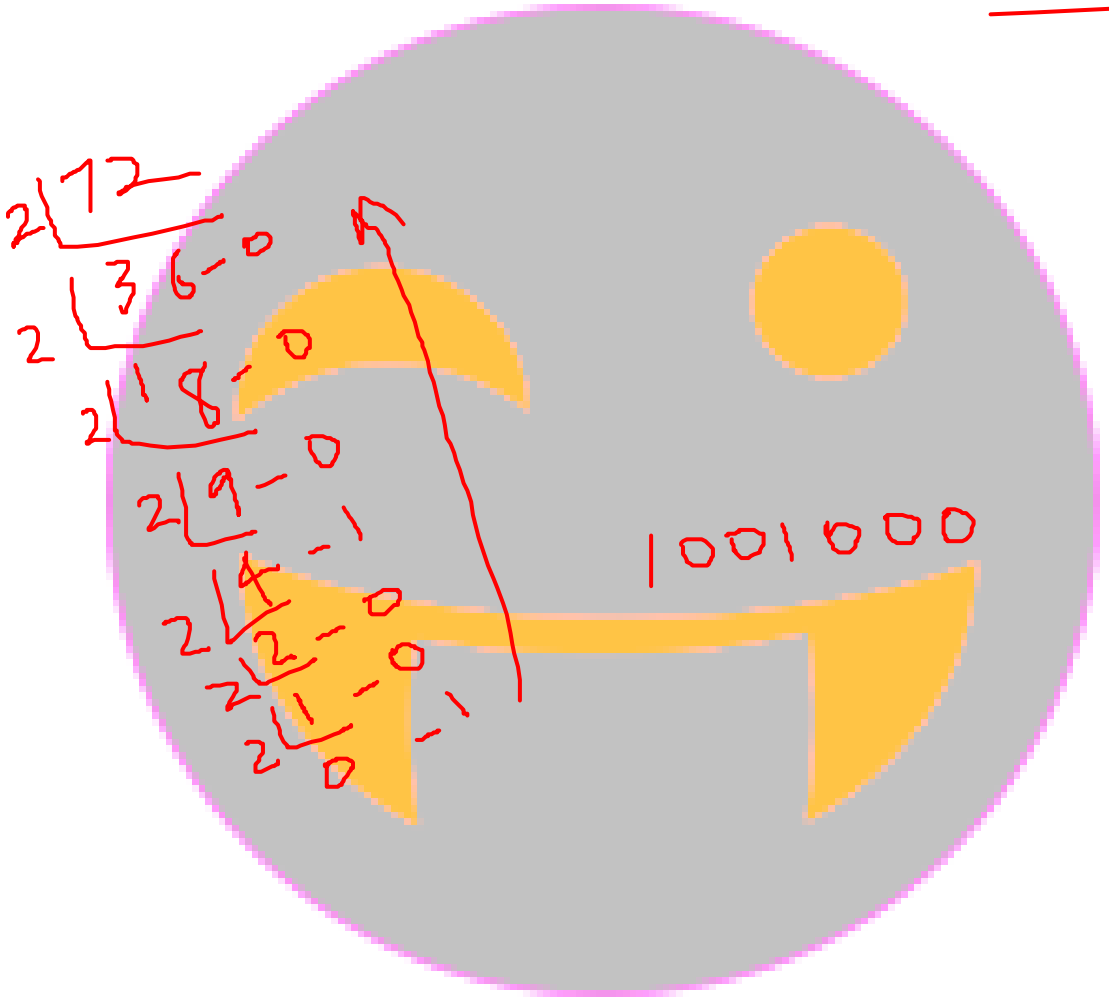


0790 is not valid as an octal number should have values from 0 to 7

13. What will be the value of 72 in binary?

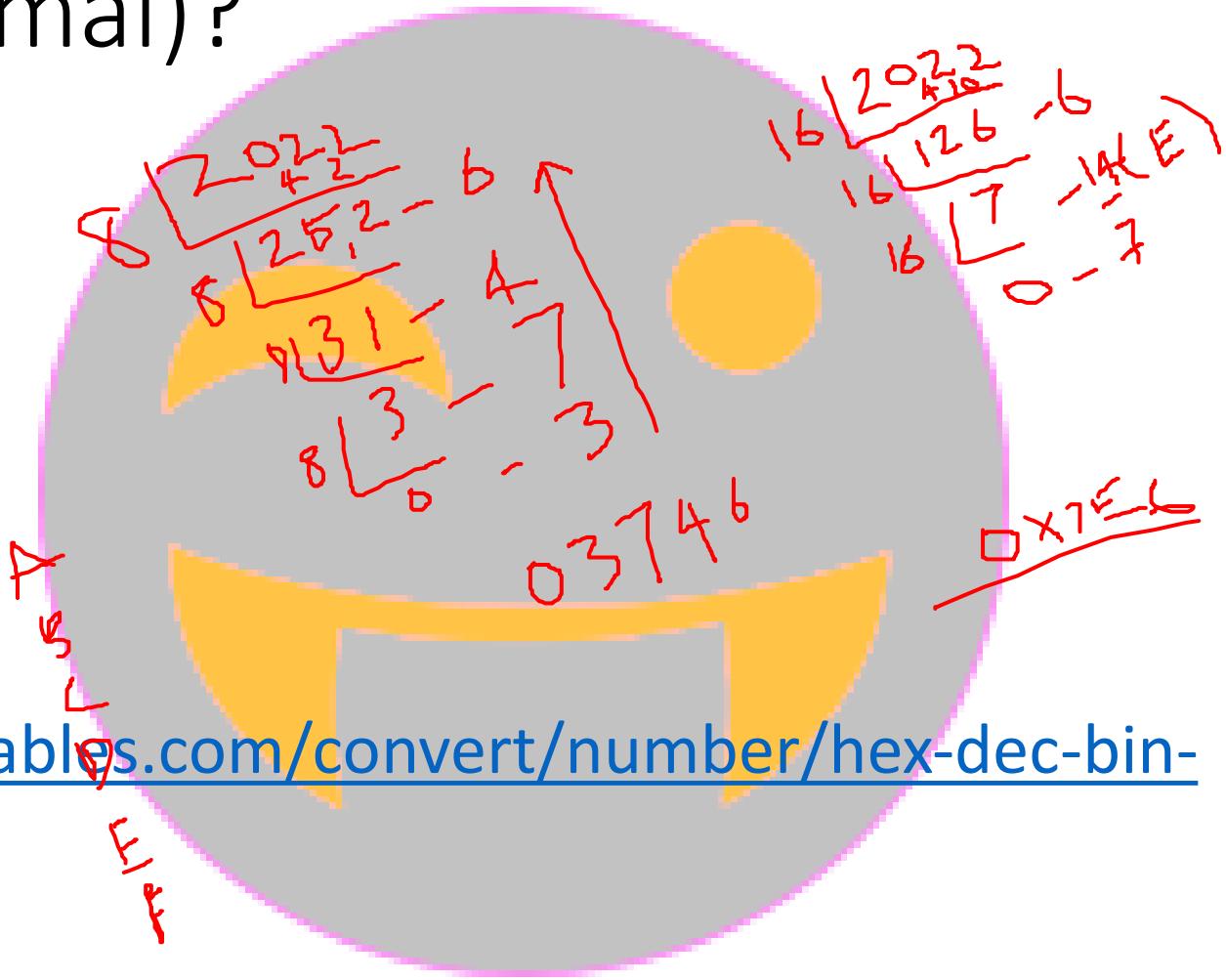
1. 1000110
2. 1001000
3. 1010000
4. 1100001

1001000



14. What is the octal and hexadecimal value of 2022(Decimal)?

1. 03546, 0x866
2. 03746, 0x7E6
3. 03646, 0x7E5
4. 03446, 0x8E5



https://www.rapidtables.com/convert/number/hex-dec-bin-converter.html

15. Predict the output

```
class DataTypesInterview {
    public static void main(String args[]){
        System.out.println("Data types Interview");
        int a = 'a';
        System.out.print(a);
    }
}
```

```
Data types Interview
97
```

0:	32:	64: @	96: `
1:	33: !	65: A	97: a
2:	34: "	66: B	98: b
3:	35: #	67: C	99: c
4:	36: $	68: D	100: d
5:	37: %	69: E	101: e
6:	38: &	70: F	102: f
7:	39: '	71: G	103: g
8:	40: (	72: H	104: h
9:	41:)	73: I	105: i
10:	42: *	74: J	106: j
11:	43: +	75: K	107: k
12:	44: ,	76: L	108: l
13:	45: -	77: M	109: m
14:	46: .	78: N	110: n
15:	47: /	79: O	111: o
16:	48: 0	80: P	112: p
17:	49: 1	81: Q	113: q
18:	50: 2	82: R	114: r
19:	51: 3	83: S	115: s
20:	52: 4	84: T	116: t
21:	53: 5	85: U	117: u
22:	54: 6	86: V	118: v
23:	55: 7	87: W	119: w
24:	56: 8	88: X	120: x
25:	57: 9	89: Y	121: y
26:	58: :	90: Z	122: z
27:	59: ;	91: [	123: {
28:	60: <	92: \	124: |
29:	61: =	93:]	125: }
30:	62: >	94: ^	126: ~
31:	63: ?	95: _	127:

16. Predict the output

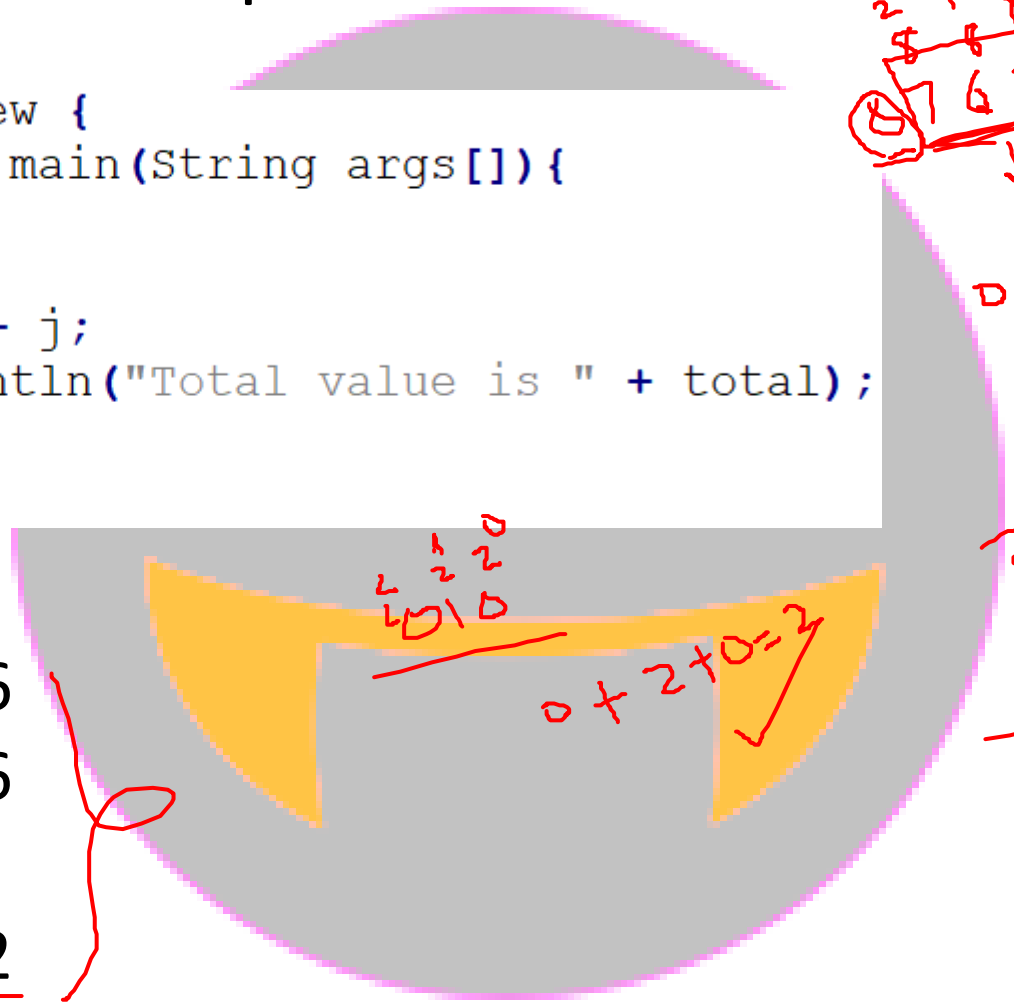
```
class DataTypesInterview {
    public static void main(String args[]){
        System.out.println("Data types Interview");
        boolean subscribed;
        System.out.print(subscribed);
    }
}
```

```
DataTypesInterview.java:5: error: variable subscribed might not have been initialized
                System.out.print(subscribed);
                                 ^
1 error
```

Local variables doesn’t get the default values

17. Predict the output

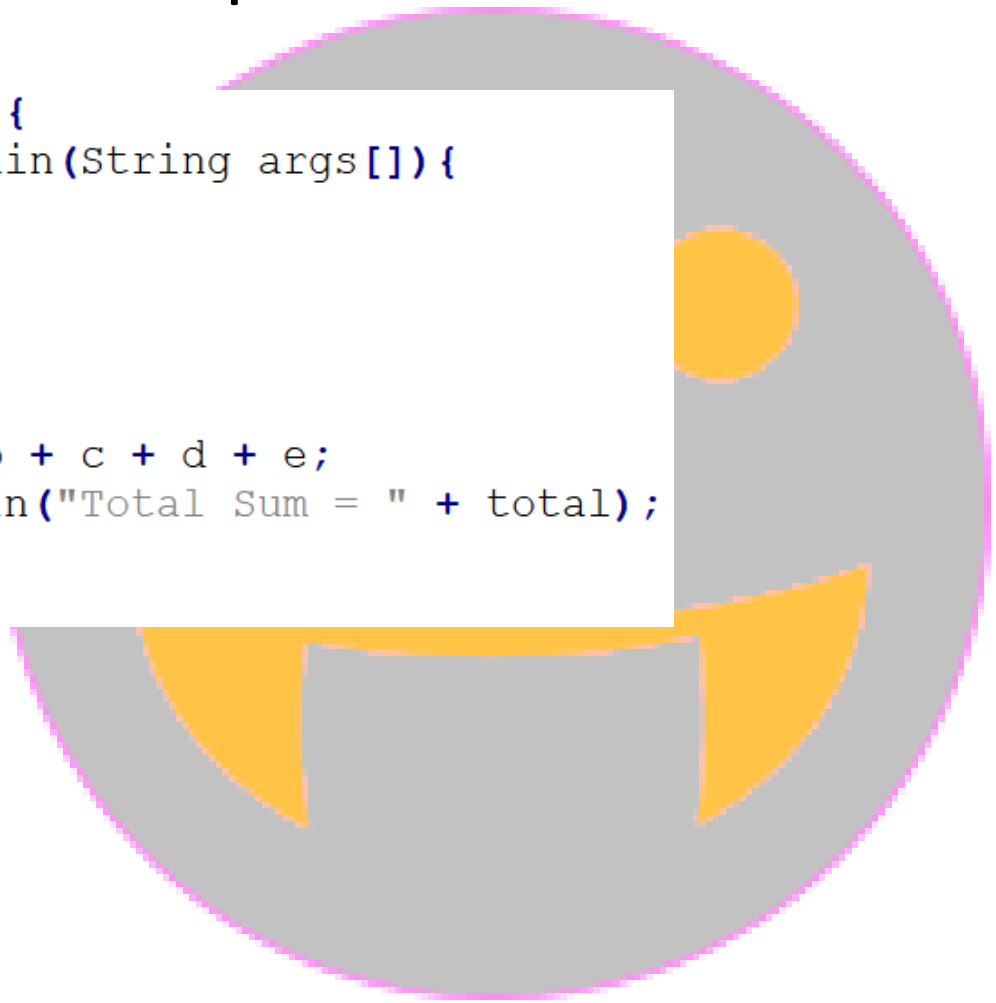
```
class DataTypesInterview {
    public static void main(String args[]){
        int i = 7806;
        int j = 0760;
        int total = i + j;
        System.out.println("Total value is " + total);
    }
}
```



1. Total value is 8566
2. Total value is 1566
3. Error
4. Total value is 8302

18. Predict the output

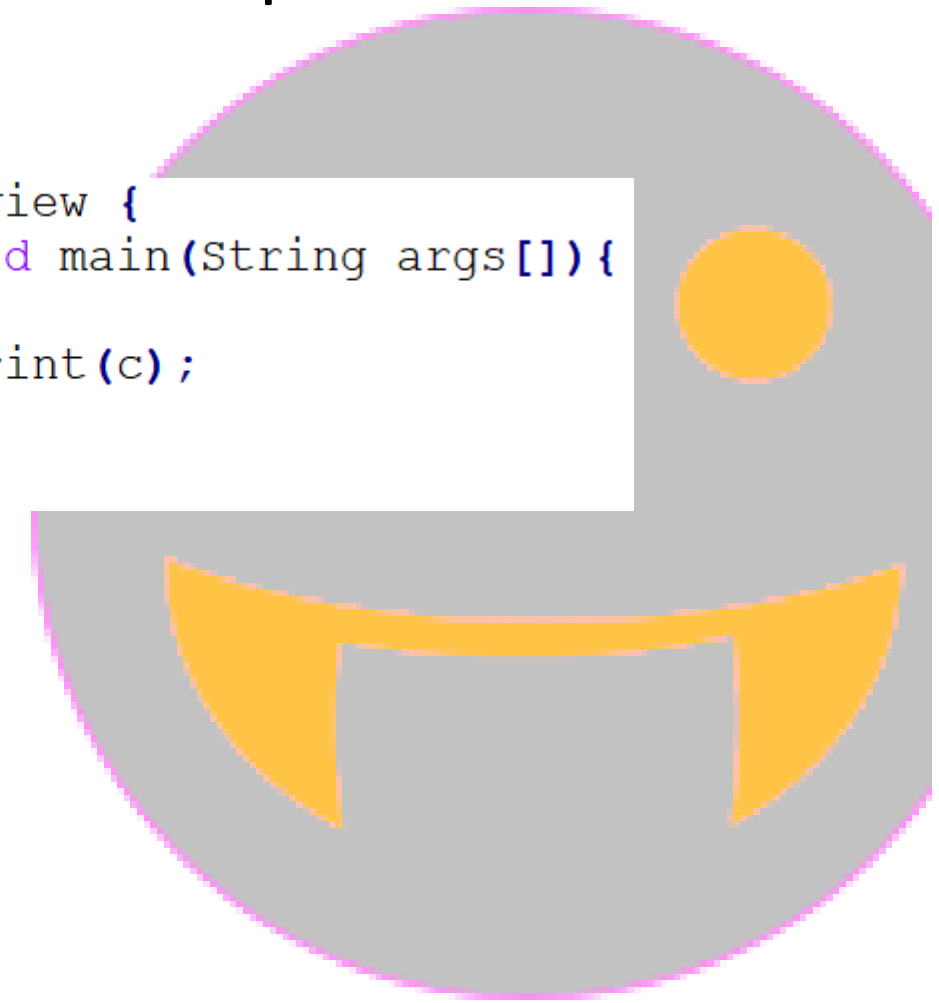
```
class DataTypesInterview {
    public static void main(String args[]){
        int a = 200;
        int b = 020;
        int c = 002;
        int d = 220;
        int e = 202;
        int total = a + b + c + d + e;
        System.out.println("Total Sum = " + total);
    }
}
```



1. Total Sum = 644
2. Total Sum = 638
3. Error
4. Total Sum = 640

19. Predict the output

```
class DataTypesInterview {
    public static void main(String args[]){
        char c = 99;
        System.out.print(c);
    }
}
```



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29:	61: =	93:]	125: }
30:	62: >	94: ^	126: ~
31:	63: ?	95: _	127:

20. Predict the output

```
class DataTypesInterview {
    public static void main(String args[]){
        char ch = '\r';
        System.out.print("marryou" + ch + "Love");
    }
}
```

1. marryourLove
2. Marry r Love
3. Loveyou
4. Marry Love you

Loveyou

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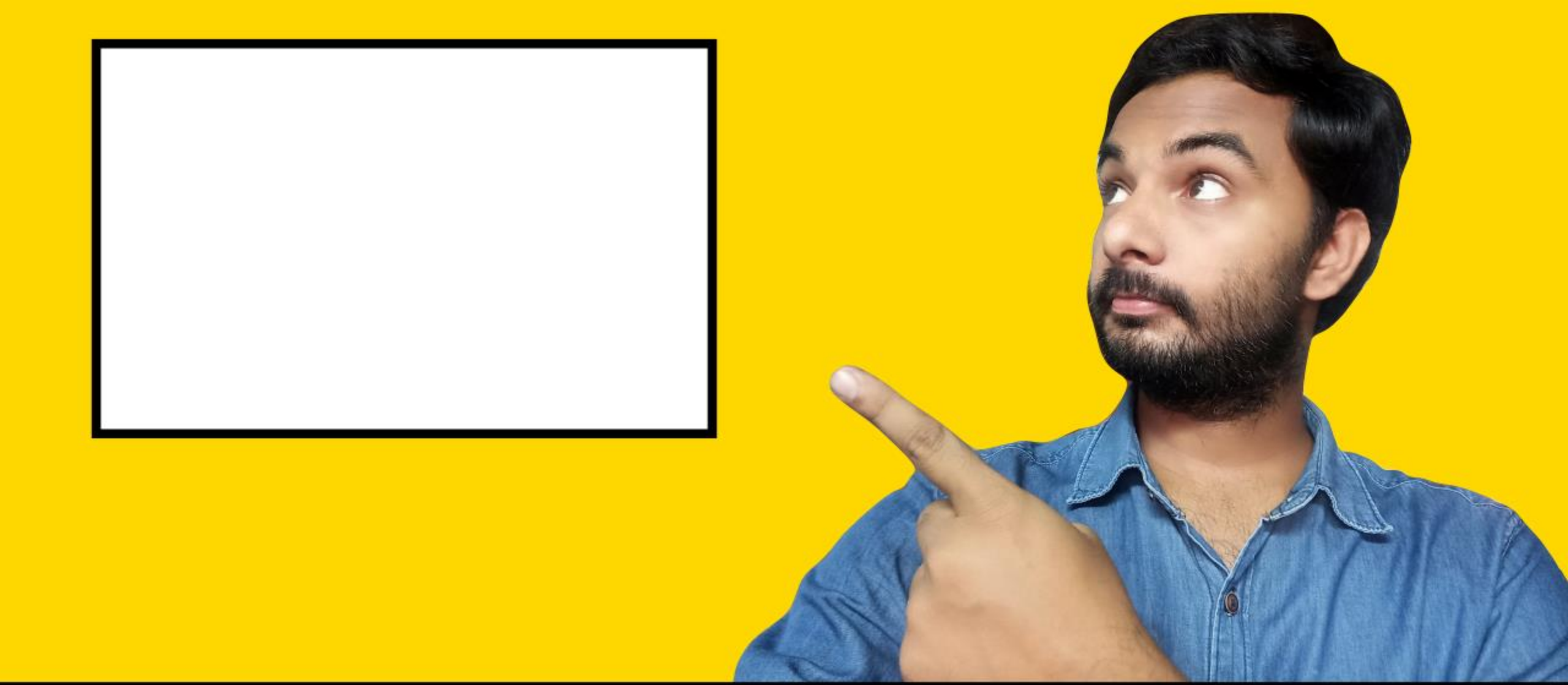

చిన్న బ్రేక్ చిటికలో వచ్చేస్తా