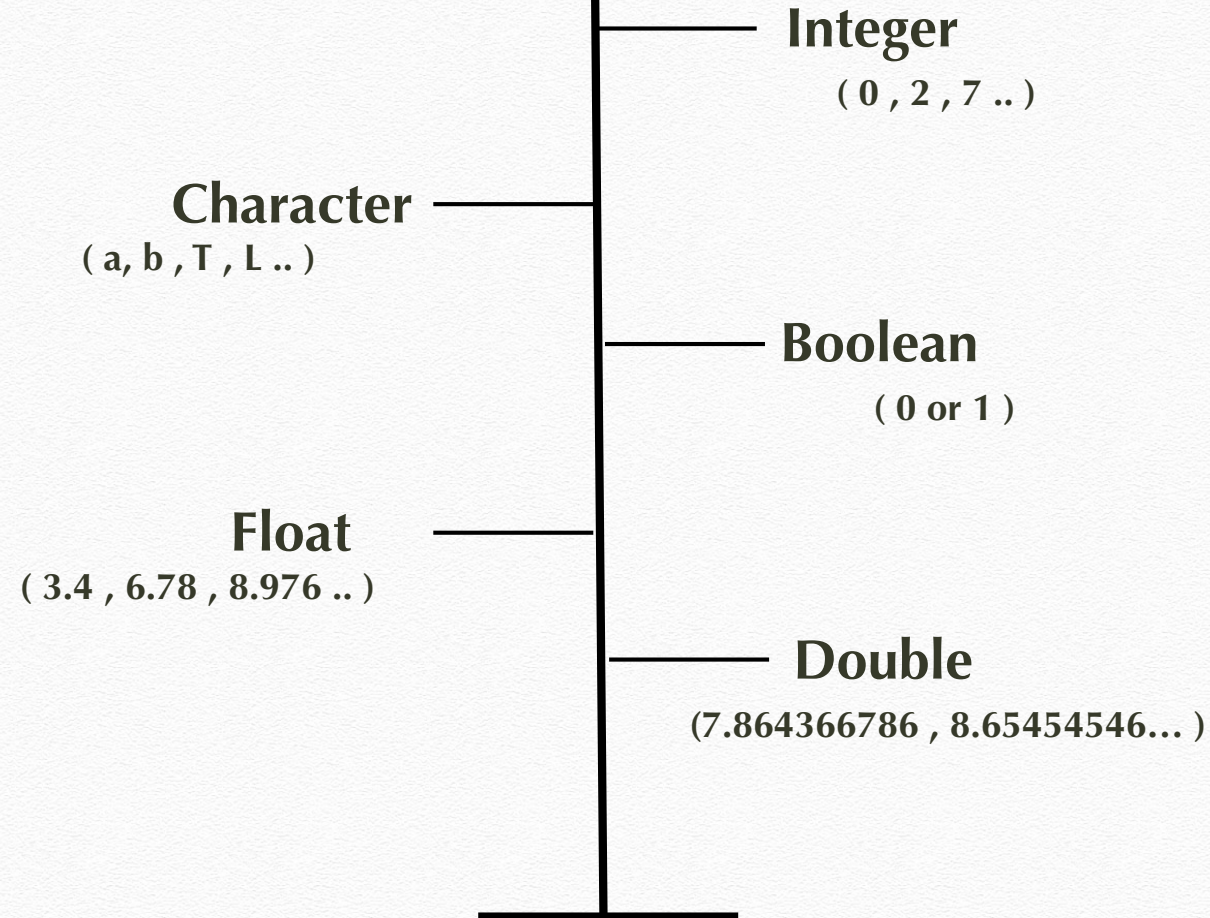


C++

A complete documentary

By Prince Agarwal
["Hello World"]

You have many different types of data

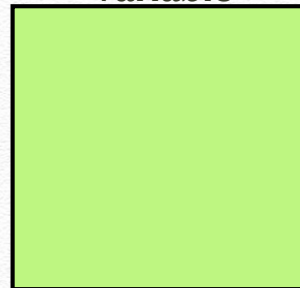


There is a need of something to store this data ?

Variables

**It is a reserved space in the memory
That stores data**

Variable




Before formation of variable

**You have to tell , which type of data you
want To store in that.**

If we want to make a integer variable

```
int number ;  
number = 25 ;
```



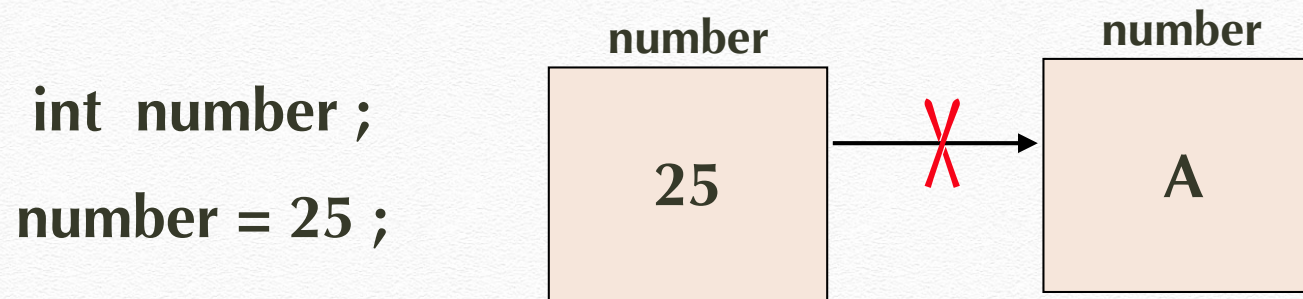
This box / this space
Captured some memory in the RAM

How much memory ?

It depends on data types

* In above case it is **int (integer)** it takes **4 bytes** of memory.

If we want to make a integer variable



```
int number ;  
number = 25 ;
```

This box / this space

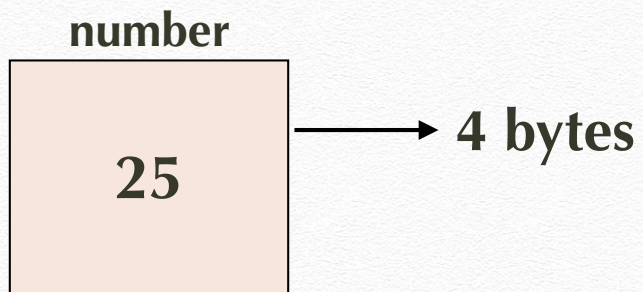
Captured some memory in the RAM

How much memory ?

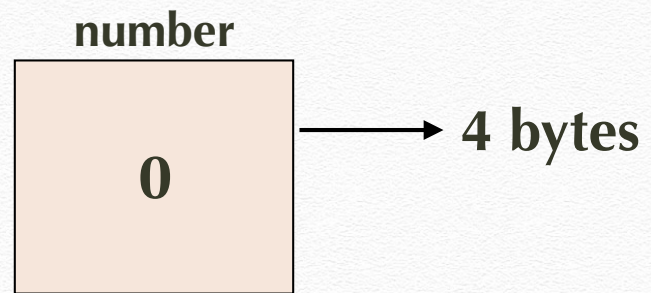
It depends on data types

* In above case it is **int (integer)** it takes **4 bytes** of memory.

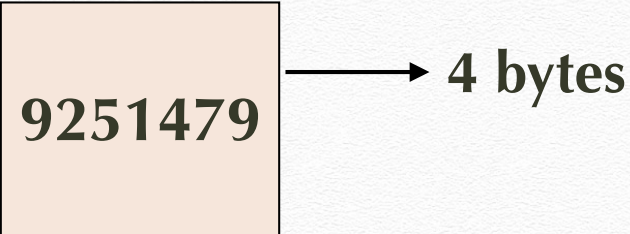

```
int number ;  
number = 25 ;
```



```
int number ;  
number = 0 ;
```




```
int number ;  
number = 9251479 ;
```



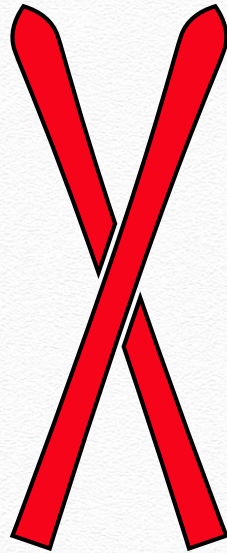
The diagram illustrates the memory representation of the variable `number`. It consists of a light orange rectangular box with a black border. Above the box, the variable name `number` is written. Inside the box, the value `9251479` is displayed. To the right of the box, a horizontal arrow points from the box to the text `4 bytes`, indicating the size of the variable in memory.


```
int number ;  
number = 925142272979 ;
```

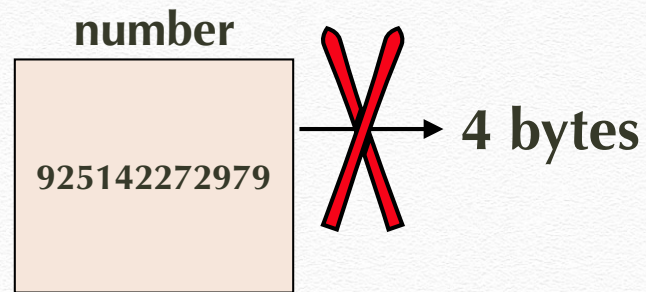
number

925142272979

→ 4 bytes




```
int number ;  
number = 925142272979 ;
```

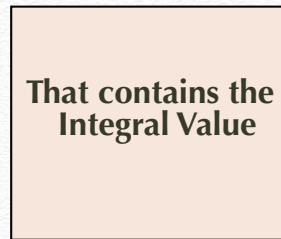


It means It has fixed range



- $(2^{31} - 1)$ *To* $2^{31} - 1$

int



That contains the
Integral Value



Captured 4 Bytes memory in the RAM



1 byte = 8 bits

4 byte = 8×4 bits = 32 bits



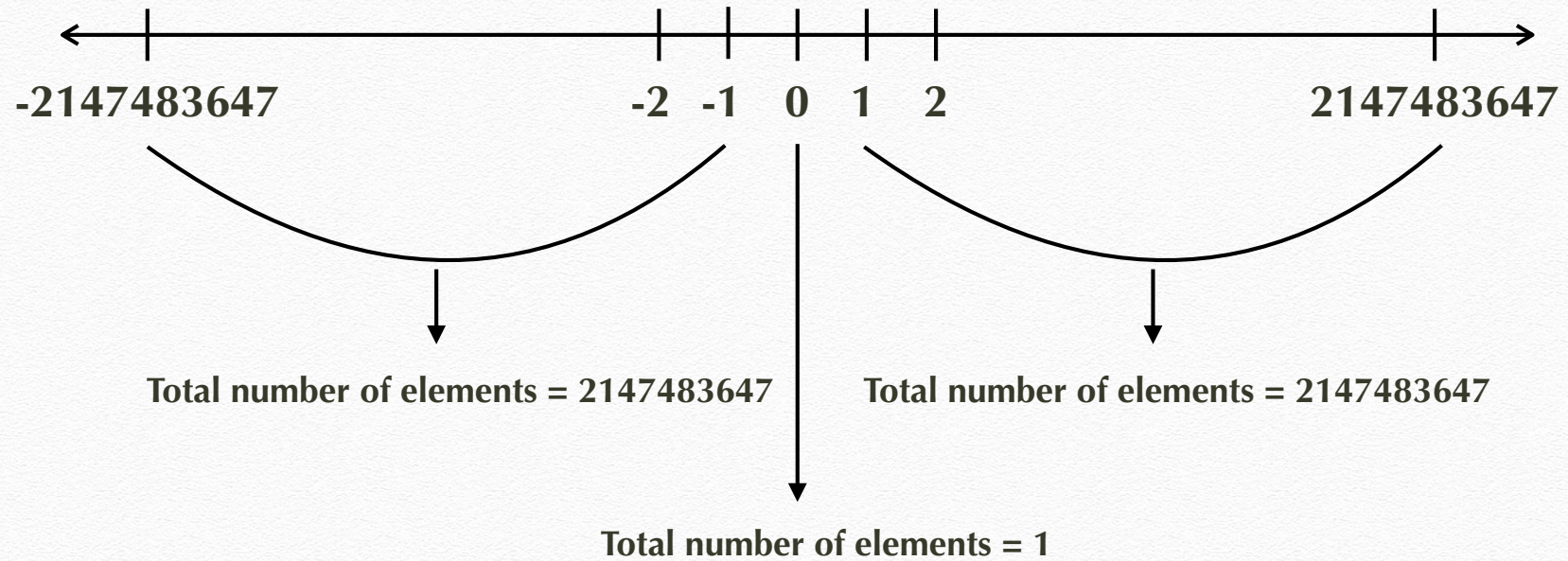
This block contains the value upto Range

- $(2^{31} - 1)$ To $2^{31} - 1$

- 2147483647 To 2147483647

$$2^{31} = 2147483648$$

Number line



$$\text{Sum of all the elements} = 2147483647 + 1 + 2147483647 = 4294967295$$

$$\downarrow$$
$$2^{32} - 1$$

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Hello World

“ If you feel any problem then comments in my video
I will reply as soon as possible “

- Prince Agarwal