Welcome, PROGRAMMERS

01.

What is sizeof() operator?

What is sizeof() operator?

sizeof() operator

The **sizeof** operator in C is used to **determine the size**, in **bytes**, **of a data type** or **an object**.
It **returns** the **number of bytes** required to store an object of the

specified type.

Let's see the **syntax** of sizeof() operator...

Syntax of a sizeof() operator

```
sizeof(type);
```

or

```
sizeof type;
```

Example of sizeof() operator

```c
int a = 5;

printf(“Size in bytes: %zu”, sizeof(a));
```

```
// Output:
Size in bytes: 4
```

%zu format specifier

The **%zu** format specifier in C is used to **print the value** of a **size_t type variable**.
The **size_t** type is an **unsigned integer type** that is used to

represent the **size of objects in memory**.

We can use “**%d**” also to print size_t variables, it will not show any error.

02.

What is Pointer?

What is

POINTER?

Pointer

A Pointer is **a variable** which **holds a memory address of another variable**.

Syntax of a Pointer

```
datatype *pointer_name;
```

Example of a Pointer

```c
int *ptr;
int a = 5;

ptr = &a;

printf(“Address is: %u”, ptr);
```

```
// Output:
Address is: 1829548364
```

Example of a Pointer

```
int *ptr;
int a = 5;

ptr = &a;

printf(“Address is: %u”, ptr);
```

```
// Output:
Address is: 1829548364
```

RAM			
	a = 5		
Memory Address	1829548364	1829548368	1829548372

03.

What is Scale of Pointer?

What is

Scale of

POINTER?

Scale of Pointer

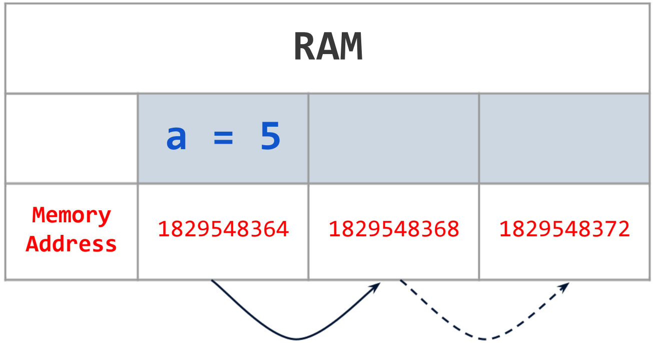
Scale of Pointer can be decremented or incremented as per requirement.

Example of Scale of Pointer (incremented)

```
int *ptr;
int a = 5;

ptr = &a;

printf(“Address is: %u”, ptr+1);
```



```
// Output:
Address is: 1829548368
```

04.

What is Pointer with Array & String?

What is

POINTER with Array & String?

Pointer with Array & String

A single pointer is created to hold a **base address** of an array.

And with that **single pointer**, by **using scale of pointer**, we can **access all elements** of an array.

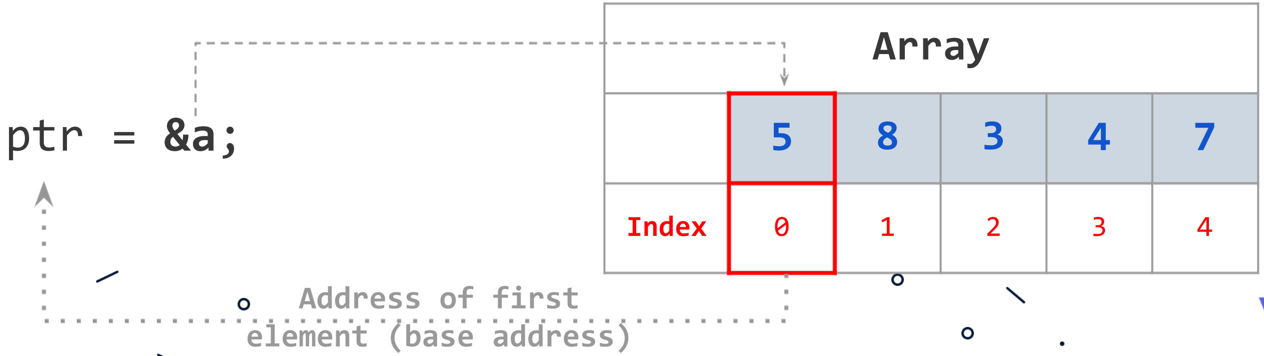
Use of Single Pointer for an Array

```
int *ptr;
int a[] = {5, 8, 3, 4, 7};

ptr = &a; // same as => ptr = &a[0];

printf("%u => %d", ptr, *ptr);
```

```
// Output:
1829548368 => 5
```



Using Scale of Pointer for access all elements

```
int *ptr, i;
int a[] = {5, 8, 3, 4, 7};

ptr = &a; // same as => ptr = &a[0];

for(i=0; i<=4; i++)
{
    printf("%u => %d", ptr+i, *(ptr+i));
}
```

```
//        Output:
1829548368 => 5
1829548372 => 8
1829548376 => 3
1829548380 => 4
1829548384 => 7
```

Language

Let's start now...

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