

C Language

More about Pointers

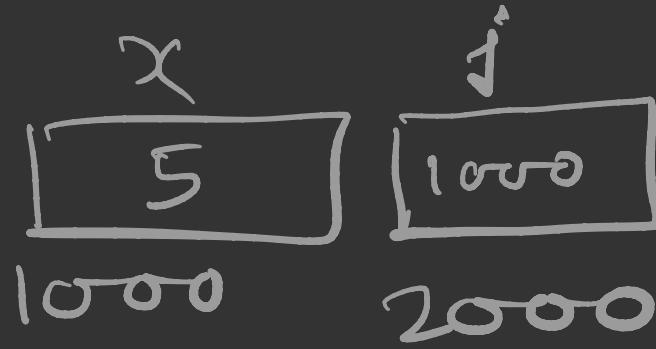


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Agenda

- ① what is pointer?
- ② Size of pointer
- ③ Base address
- ④ Data type of pointer
- ⑤ Extended concept of pointers

```
int x = 5;  
int *j;  
j = &x;
```



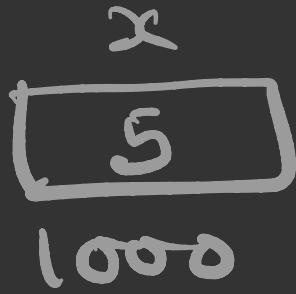
j is a pointer variable

Two types of variables

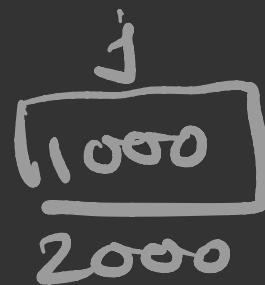
① Ordinary variables [value type variable]

② Pointer variables

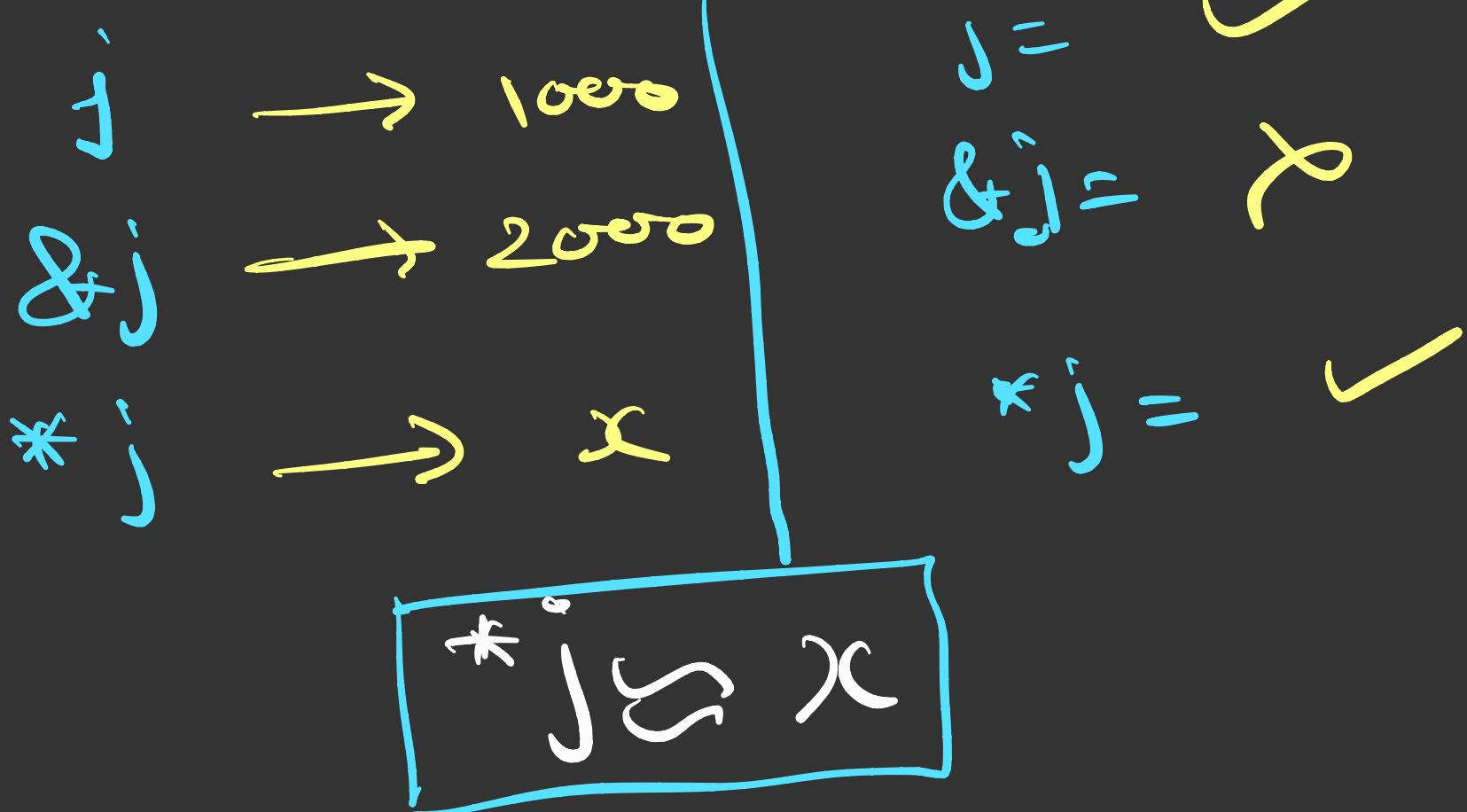
```
int x=5;
```



```
int *j;
```



```
j=&x;
```

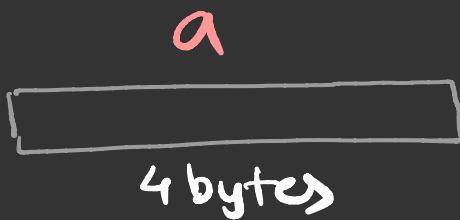


What is a Pointer?

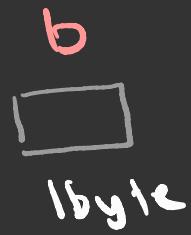
Pointer is variable, which contains address of another variable.

Size of Pointer

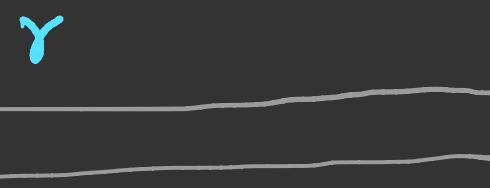
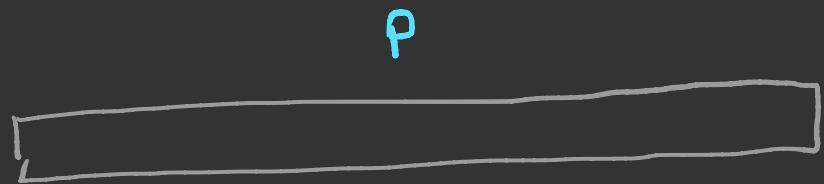
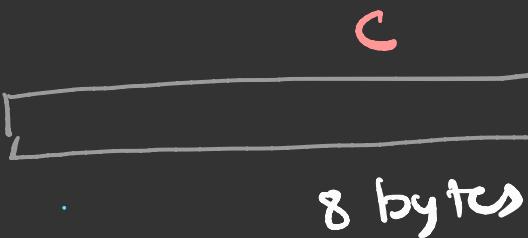
int a,*P ;



char b,*q;



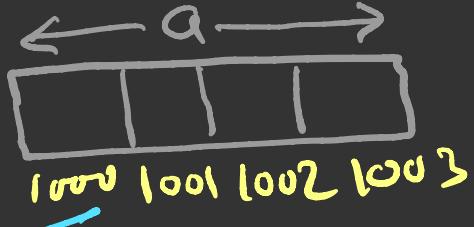
double c,*x;



whatever is the type of a pointed, it always
consumes 8 bytes in memory.

Base Address

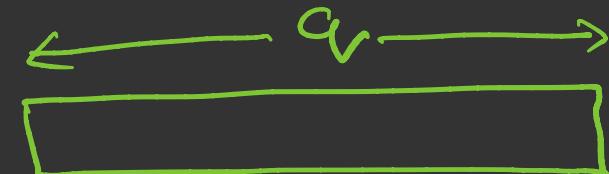
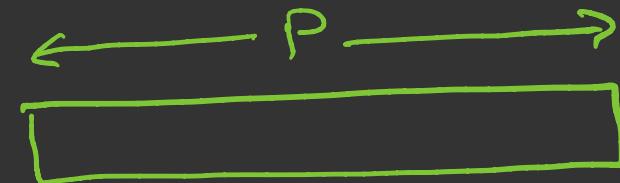
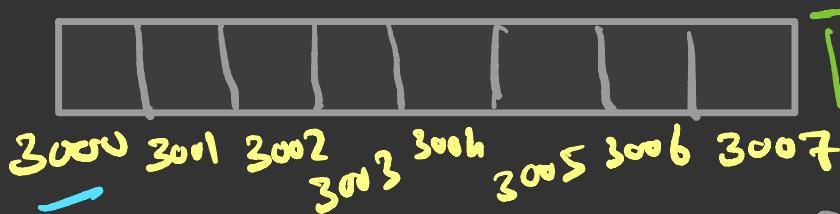
int a, *p;



char b, *q;



double c, *r;



Base address = address of the first byte of
any variable

pointer always contains base address

Data Type of Pointer

int a, *p;

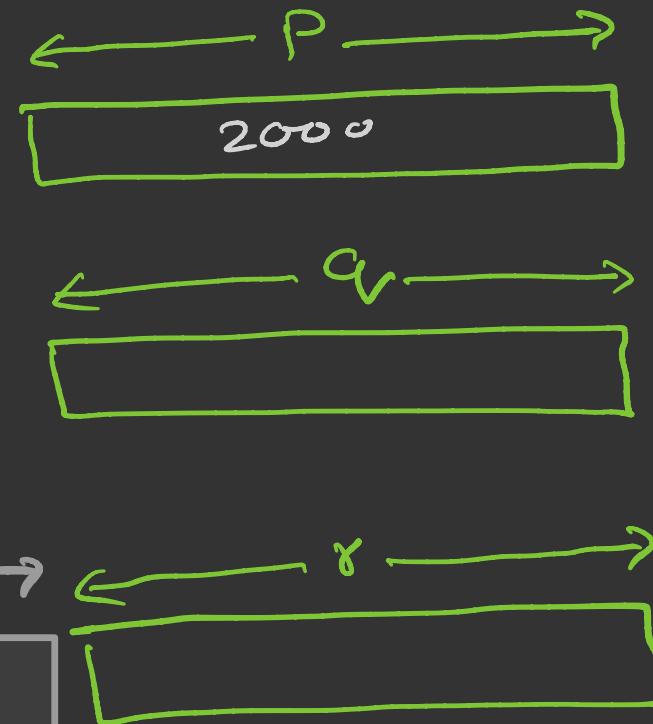
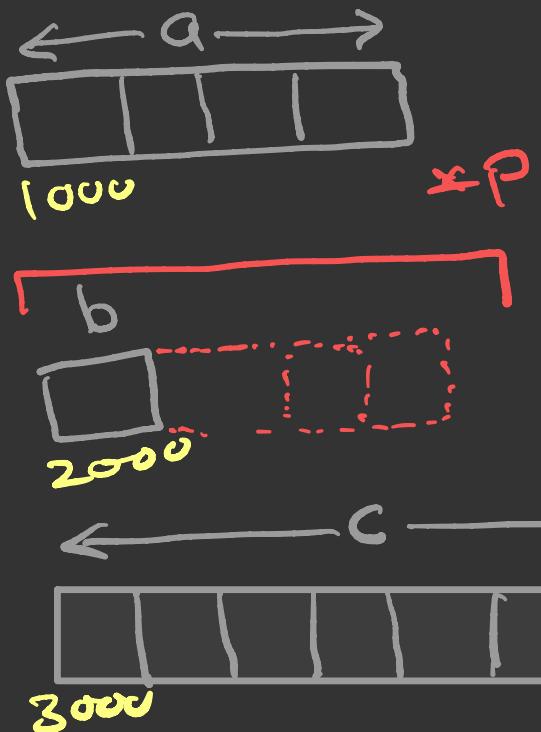
char b, *q;

double c, *r;

P = &b ;

*P ≈ b

char *q ; q is not going to store character constant, but it is going to store address of char variable.



pointer ki type aur hona
chahiye jis type ka
variable ka address
use rakhna hai

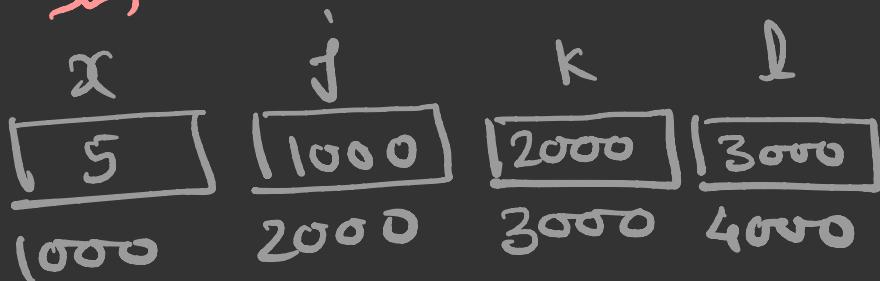
Extended Concept of Pointers

```
int x=5, *j, **k, ***l;
```

```
j=&x;
```

```
k=&j;
```

```
l=&k;
```



2000 2000 2000 5

```
printf("%d %d %d %d", k, *l, &j, x);
```

1000 3000 5 3000

```
printf("%d %d %d %d", **l, &k, &&j, l);
```

5 5 4000 1000

```
printf("%d %d %d %d", ***l, &*&k, &*&&l, j);
```