(#) Pointer to Pointer (Double pointer)
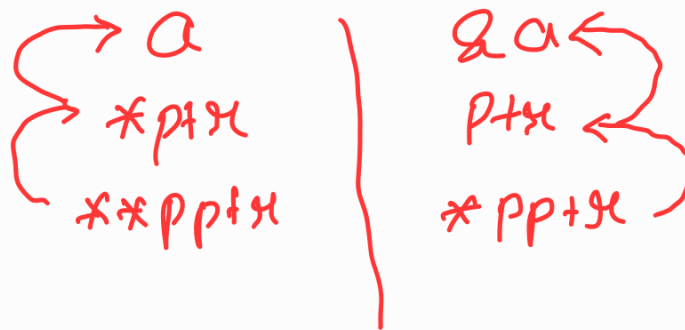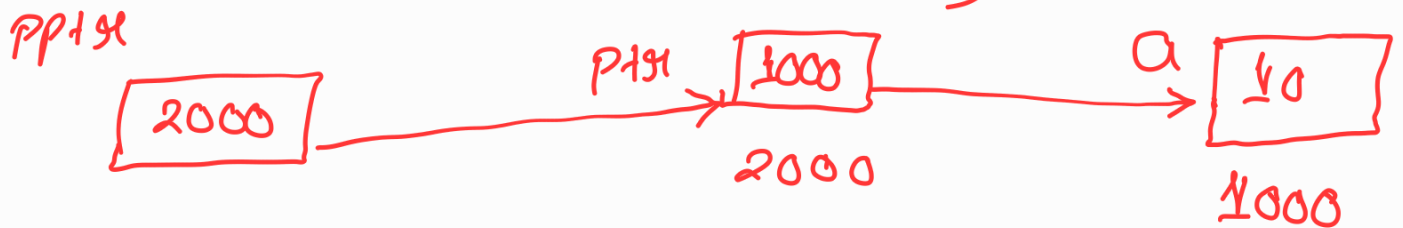
↳ data_type ** variable_name;

Ex:- int ** a;

Example:-

```
int a = 10;
int *ptr;
int **pptr;

ptr = &a;
pptr = &ptr;
```


pptr

| 2000 |

ptr | 1000 | 2000

a | 10 | 1000

$$\begin{cases} \rightarrow a \\ *ptr \\ **pptr \end{cases} \quad \Big| \quad \begin{cases} \&a \\ ptr \\ *pptr \end{cases}$$

printf ("%d", **pptr);

o/p:
⇒ 10

(#) Array of pointers
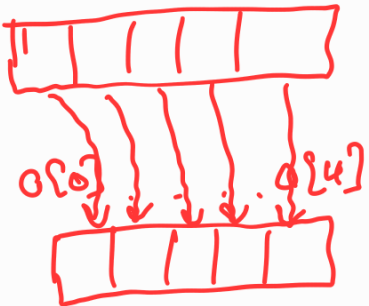
↳ datatype *variable_name [size];
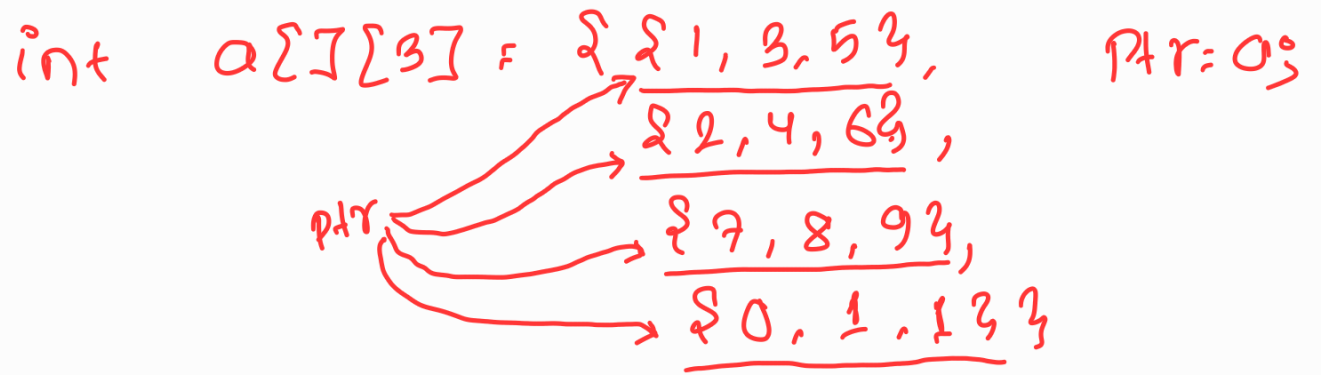
Ex:- int *ptr [5];

*ptr [0], *ptr [1] .... *ptr [4]

Ex.

```
int  a[] = { 1, 3, 5, 7, 9}
int  *ptr[5];
  int i;
  for( i=0 ; i<5 ; i++)
  {
        ptr[i] = & a[i];
  }
```

a[0]   ... a[4]

In loop. $\Leftarrow$ {   printf(" %d ", *ptr[i]);

(#) Pointer to point array

```
int   a[][3] = { {1, 3, 5},        Ptr=0;
                 {2, 4, 6},
      ptr      {7, 8, 9},
                 {0, 1, 1}}
```

```
int  (*ptr)[3];
```

ptr=a

Array	Pointer
a[i]	*(ptr + i)
a[i][j]	*(*(ptr + i) + j)