

1 - Size of pointers (Depends on bit system)

32-bit system  $\Rightarrow$  4 bytes

64-bit system  $\Rightarrow$  8 bytes

### Types of Pointers

① NULL pointer:

`int *ptr = NULL;`  
 $\rightarrow$  if it is null, it's not a valid memory location

② Wild pointers:

`int *ptr; // not initialized`

③ Dangling pointers:

`int *ptr = (int *) malloc (sizeof(int) * 4);  
 free (ptr)`

It is a pointer pointing to memory location that has been freed;

④ pointer to function:

return type  $\rightarrow$  `int (*ptr) (int, int)`  $\leftarrow$  Parameter list

int \*pointer ;

متغير يخزن عنوانه ←

int Ahmed = 1 ;

\*pointer = Ahmed ;

∴ pointer = & Ahmed ;  
\*Pointer = 1

char Ahmed = 'A' ;

int Pointer نوعه

char \*pointer ;

في المثال ده :

\*pointer = Ahmed ;

عنوانه ~~أحمد~~ pointer :

∴ pointer = & Ahmed ;  
\*Pointer = 'A'

المتغير Ahmed الا شايل حرف A

نوعه : int يعني بيتخزن في 4 byte