

Pointers →

<https://www.naukri.com/code360/guided-paths/pointers/content/235645/offering/3168907>

Why we need Pointers 😊

when we creating a variable the data stored in that variable is stored in specific memory address and that address is mapped with our name of variable with the help of **Symbol Table**.

1. **Symbol Table**:- is an important data structure created and maintained by compiler in order to keep track of semantics of variables i.e. it stores the information about the scope and binding information about names, information about instances of variables of various entities such as variable and function names, classes, object etc.

we can also check the address of the variable using address of operator in c++. which is denoted by "&" and it is stored in the format of hexadecimal format example → "**cout<< &num<<endl;**" it will print the address of num variable.

here pointer comes , whenever we want to store the address we will use the pointer **example " int *ptr = &num"** here ptr will store the address of num.

Note 😊 It is bad practice to declare the pointer as "**int *ptr**" because it will store the garbage value at any location of our memory, and when we try to overwrites its value it will change the value of that location which is dangerous practice

now num and **ptr store the name memory address** and ***ptr holds the value** of that address we can manipulate the value of num using *ptr.

"*" is a D-reference operator, so when we want to print the value of num we can also print "**cout<<*ptr**" it will also give us the value of num.

pointer takes 8 byte memory .