int a = 5; (size of int data type = 4 bytes)

Suppose if we have the above statement in our program The stack memory is used to allocate memory in this. The compiler does not allocate memory as it is not responsible for it, rather a compiler is used to translate it into machine level code. The memory allocation is done by the operating system (OS)

```
int * ptr = new int;
ptr = &a;
```

Now in this case as we are using the new keyword to make a pointer. This becomes dynamic memory allocation and heap memory is used for it

but if we write like,

```
int * ptr = &a;
```

← This is again static memory allocation as we are not using the new keyword and stack memory is used.

But as far as memory allocation is concerned OS is responsible for it.

The size of a pointer variable depends on the computer arch. If the machine is 32 bits then the pointer size is 4 bytes, if it's a 64 bit machine then is 8 bytes. The size remains the same regardless of the data type of the pointer.