

Introduction to Variables

A **variable** is a storage place that has some memory allocated to it. It is used to store some form of data. Different types of variables require different amounts of memory.

Variable Declaration

In C++, we can declare variables as follows:

- **data_type:** Type of the data that can be stored in this variable. It can be int, float, double, etc.
- **variable_name:** Name given to the variable.

```
data_type variable_name;
```

Example: `int x;`

In this way, we can only create a variable in the memory location. Currently, it doesn't have any value. We can assign the value in this variable by using two ways:

- By using variable initialization.
- By taking input

Here, we can discuss only the first way, i.e., variable initialization. We will discuss the second way later.

```
data_type variable_name=value;
```

Example: `int x = 20;`

Rules for defining variables in C++

- You can't begin with a number. **Ex- 9a** can't be a variable, but **a9** can be a variable.
- Spaces and special characters except for underscore(_) are not allowed.
- C++ keywords (reserved words) must not be used as a variable name.
- C++ is case-sensitive, meaning a variable with the name 'A' is different from a variable with the name 'a'. (Difference in the upper-case and lower-case holds true).

C++ Keywords

asm	else	new	this
auto	enum	operator	throw
bool	explicit	private	true
break	export	protected	try
case	extern	public	typedef
catch	false	register	typeid
char	float	reinterpret_cast	typename
class	for	return	union
const	friend	short	unsigned
const_cast	goto	signed	using
continue	if	sizeof	virtual
default	inline	static	void
delete	int	static_cast	volatile
do	long	struct	wchar_t
double	mutable	switch	while
dynamic_cast	namespace	template	