

* POLYMORPHISM

⇒ polymorphism is that in which we can perform a task in multiple forms or ways. It is applied to the functions or methods.

⇒ polymorphism allows objects to decide which form of function to implement at compile-time as well as run time.

Example:

```
#include <iostream.h>
using namespace std;
class A {
    int a, b, c;
public:
    void add(int x, int y)
    {
        a = x;
        b = y;
        cout << "add of a+b is : " << (a+b) << endl;
    }
    void add(int x, int y, int z)
    {
        a = x;
        b = y;
        c = z;
        cout << "add of x+y+z is : " << (a+b+c) << endl;
    }
    virtual void print()
    {
        cout << "add class A's method is running" << endl;
    }
};
class B : public A {
public:
    void main()
    {
        cout << "class B's method is running" << endl;
    }
};
int main()
{
}
```



```
A a1;  
a1.add(6, 5);  
b1.print();
```

* INHERITANCE

⇒ Inheritance is one in which a new class is created that inherits properties of already exist class. It supports concept of code reusability and reduces length of code in object oriented programming.

Types:

- * Single inheritance
- * Multi-level inheritance
- * Multiple inheritance
- * Hybrid inheritance
- * Hierarchical inheritance

Example program (C++)

```
#include <iostream.h>  
using namespace std;  
class A {  
    int a, b;  
public:  
    void add(int x, int y)  
{  
        a = x;  
        b = y;  
        cout << (a + b) << endl; } }  
class B : public A {  
public:  
    void print(int x, int y); } }  
    {  
        add(x, y); } }  
int main()  
{  
    B b1;  
    b1.print(5, 6);  
}
```