Task1:

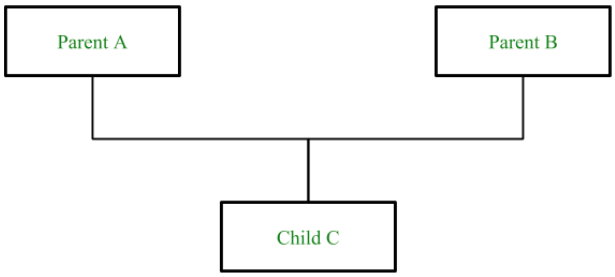
- Explain the advantage and disadvantage of multiple inheritance. Write a PHP program to demonstrate that.

1. Advantage

- Inheritance promotes reusability. When a class inherits or derives another class, it can access all the functionality of inherited class.
- Reusability enhanced reliability. The base class code will be already tested and debugged.
- As the existing code is reused, it leads to less development and maintenance costs.
- Inheritance makes the sub classes follow a standard interface.
- Inheritance helps to reduce code redundancy and supports code extensibility.
- Inheritance facilitates creation of class libraries.

2. Disadvantage

- Inherited functions work slower than normal function as there is indirection.
- Improper use of inheritance may lead to wrong solutions.
- Often, data members in the base class are left unused which may lead to memory wastage.
- Inheritance increases the coupling between base class and derived class. A change in base class will affect all the child classes.



Syntax:

```
class child_class_name extends parent_class_name {
    use trait_name;
    ...
    ...
    child_class functions
}
```

Example code:

Input	Output

```
<?php

class Foo
{
    public function printItem($string)
    {
        echo 'Foo: ' . $string . PHP_EOL;
    }

    public function printPHP()
    {
        echo 'PHP is great.' . PHP_EOL;
    }
}

class Bar extends Foo
{
    public function printItem($string)
    {
        echo 'Bar: ' . $string . PHP_EOL;
    }
}

$foo = new Foo();
$bar = new Bar();
$foo->printItem('baz'); // Output: 'Foo: baz'
$foo-
>printPHP();       // Output: 'PHP is great'
$bar->printItem('baz'); // Output: 'Bar: baz'
$bar-
>printPHP();       // Output: 'PHP is great'

?>
```

```
Foo: baz
PHP is great.
Bar: baz
PHP is great.
```