What do you mean by object-oriented thinking ?

Object oriented thinking involves writing of classes, which represents objects in problem domains.

For example,

Writing a program for student management, than we can create object studentm fee reciept, attendance, etc.

What is Object Oriented Programming ?

The programming which involves use of classes and objects.

Some examples of object oriented programmins are:

- C++
- Java
- Python
- C#, etc.

What is procedural programming language ?

programming language that describes a sequence of well-organized actions and processes.

Some examples of procedureal programming language:

- C programming

- Cobol
- Algol
- Fortran

Features of object oriented programming ?

- Inheritance
- Encapsulation
- Abstraction
- Polymorphism
- Method Overriding
- Method Overloading
- Objects
- Classes
- Constructors and Destructors

Merits and demerits of object oriented methodology ?

Merits of object oriented methodology

- Reuse of code using class
- Easy to maintain

Demerits of object oriented methodology

- Complex to create programs

What is encapsulation ?

Encapsulation is defined as the wrapping up of data under a single unit.

How to implement encapsulation in C++ ?

```
class Rectangle {
  public:
    int length;
    int breadth;

    int getArea() {
      return length * breadth;
    }
};
```

Class binds variables and methods.

What is data abstraction ?

Providing only essential information about the data to the outside world, hiding the background details or implementation.

How to implement data abstraction in C++ ?

Create a method, and call it when required. Without rewriting code.

```
#include <iostream>
class implementAbstraction
```

```cpp
{
    private:
        int a=100;
    public:

        void show()
        {
            cout<<"a = " <<a << endl;
        }
};
int main()
{
    implementAbstraction obj;
    obj.show();
    return 0;
}
```