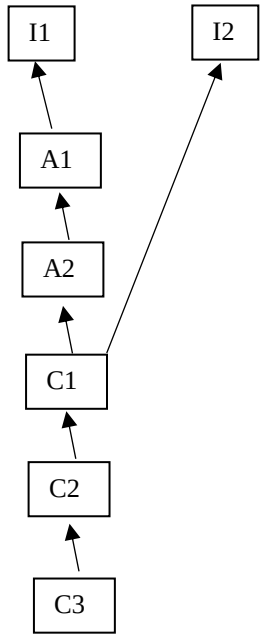
Online 3 (Time: 1 hr)

Implement all the classes, abstract classes and interfaces shown in the hierarchy accordingly using the concept of inheritance.
(I = Interface, A = Abstract Class, C = Class)




```
interface I1{
    void f1();
    default void f2(){
        System.out.println("Default method of Interface I1");
    }
}
abstract class A1 implements I1{
    abstract void f3();
    void f4(){
        System.out.println("Concrete method of Abstract Class
                           A1");
    }
}

abstract class A2 extends A1{
    abstract void f8();
    abstract void f9();
    void f10(){
        System.out.println("Concrete method of Abstract Class
         A2");
    }
}
interface I2{
    void f5();
    void f6();
    default void f7(){
        System.out.println("Default method of Interface I2");
    }
}
```

Remember, a class must implement all the abstract methods of an interface or an abstract class while implementing or extending them.

```
public class Online3{
    public static void
        main(String[] args){        Output:
        C1 c1 = new C1();
        c1.f1();                    Method f1 inside C1
        c1.f2();                    Default method of Interface I1
        c1.f3();                    Method f3 inside C1
        c1.f4();                    Concrete method of Abstract Class A1
        c1.f5();                    Method f5 inside C1
        c1.f6();                    Method f6 inside C1
        c1.f7();                    Default method of Interface I2
        System.out.println();

        c1 = new C2();
```

```
        c1.f1();                    Method f1 inside C1
        c1.f2();                    Default method of Interface I1 inside C2
        c1.f3();                    Method f3 inside C2
        c1.f4();                    Concrete method of Abstract Class A1
        c1.f5();                    Method f5 inside C1
        c1.f6();                    Method f6 inside C2
        c1.f7();                    Default method of Interface I2
        System.out.println();

        c1 = new C3();
        c1.f1();                    Method f1 inside C1
        c1.f2();                    Default method of Interface I1 inside C2
        c1.f3();                    Method f3 inside C3
        c1.f4();                    Concrete method of Abstract Class A1 Inside C3
        c1.f5();                    Method f5 inside C3
        c1.f6();                    Method f6 inside C2
        c1.f7();                    Default method of Interface I2 Inside C1
        System.out.println();

    }

}
```

Grading [23 pts]

[7 pts] class C1
[7 pts] class C2
[7 pts] class C3
[2 pts] submission

Instructions

- Make sure to put your name and student ID at the top of your .java file.
- Submit the Online3.java file, you do not need to rename it.
- Any sort of plagiarism will be dealt very strictly with negative marking.