KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY (KIIT)

Deemed to be University U/S 3 of the UGC Act, 1956

School of Computer Engineering

WT LAB - 8

Submitted By :

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Section: IT-04

Branch : Information Technology

Q-1 : Illustrate the use of abstract class with the following Java classes
a) An abstract class Student with data member roll, registration and abstract method course.
b) A sub-class KIITan with course method implementation.

CODE:

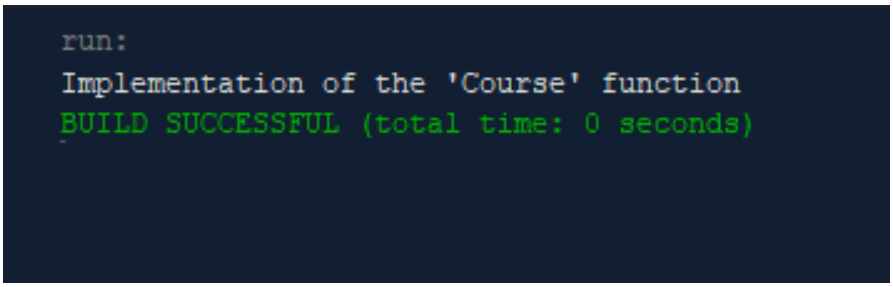
```
abstract class Student {
   int roll, reg;
   abstract void course();
}

class KIITan extends Student{
   void course() {
      System.out.println("Implementation of the 'Course' function");
   }
}

class q1{
   public static void main(String args[]){
      KIITan s = new KIITan();
      s.course();
   }

}
```

OUTPUT:



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Q2 : Define an interface Motor with a data member capacity and 2 methods such as run and consume.

Define a java class washing machine which implements this interface and write the code to check the value of interface data members through an object of the class.

CODE:

```
interface Motor {
   int capacity = 100;
   void run();
   void consume();

}

class WashingMachine implements Motor {
   public void run() {
      System.out.println("Implementation of Run method");
   }

   public void consume() {
      System.out.println("Implementation of Consume method");
   }
}


class q2{
   public static void main(String args[]) {
      WashingMachine s = new WashingMachine();
      s.run();
      s.consume();
   }
}
```

OUTPUT:

```
run:
Implementation of Run method
Implementation of Consume method
BUILD SUCCESSFUL (total time: 0 seconds)
```

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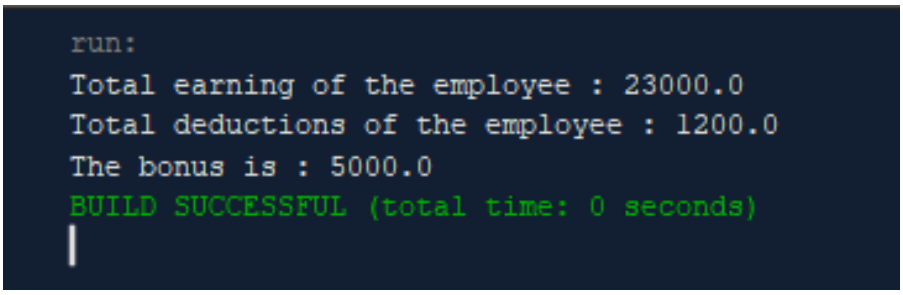
Q-3 :Define an interface with 3 methods earning, deduction and bonus and define a Java class Manager which uses this interface without implementing bonus method. i.e. Manager is a subclass without bonus method. Also define another java class SubStaff which extends from Manager class and implements the bonus method.
Write the complete program to find out the earnings, deduction and bonus of a substaff with basic salary amount entered by the user as per the following guidelines :-
earning -> basic + DA(80% of basic) + HRA(50% of basic)
deduction PF -> (12% of basic)
bonus -> 50% of basic

CODE:

```
interface Pay {
   void earning();
   void bonus();
   void deduction();
}

abstract class Manager implements Pay {
   float basic;

   Manager(float basic) {
      this.basic = basic;
   }

   public void earning() {
      System.out.println("Total earning of the employee : " + (basic + basic * (0.8) +
basic * (0.5)));
   }

   public void deduction() {
      System.out.println("Total deductions of the employee : " + (basic * 0.12));
   }
}

class SubStaff extends Manager {
   float basic;

   SubStaff(float basic) {
      super(basic);
      this.basic = super.basic;
   }
```

```
    public
    void bonus() {
        System.out.println("The bonus is : " + basic * (0.5));
    }
}

class q3{
    public static void main(String args[]) {
        SubStaff d = new SubStaff(10000);
        d.earning();
        d.deduction();
        d.bonus();
    }
}
```

OUTPUT:



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