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Interface Practice

**Interface Practice**

Blue = Questions Green = Code Red = Answer

Given this interface,

public interface Convertable

{ public double convert(int i); }

Which of the following classes will the Java compiler accept as correctly imple-

menting the interface? Justify your answers.

(a)

public class C1 implements Convertable

{ private int x;

public C1(int a) { x = a; }

public double convert(int j)

{ return x + j; }

}

It is correctly implements the Convertible interface

(b)

public class C2 implements Convertable

{

private int x;

public C1(int a) { x = a; }

public int convert(int i)

{ return i; }

}

It gives an error because the definition of functions that defines in interface is different from functions that overrides here in class C2 because both have different return type so both functions are different for correcting we have two options first we have to make class C2 abstract or second we have change the return type of convert method into double and parameter into double

(c)

public class C3

{ private int x;

public C3(int a) { x = a; }

public double convert(int i)

{ return (double)x; }

It does not implementing any interface so if we create an object for C3 it works fine.

2-Given this interface,

public interface Convertable

{ public double convert(int i); }

Which of the following classes use the interface correctly? Justify your answers.

(a)

public class Compute1

{ private Convertable convertor;

public Compute1(Convertable c)

{ convertor = c; }

public void printConversion(int x)

{ System.out.println(convertor.convert(x)); }

}

It works fine because first of all we have to create a reference of the interface assign object to this reference of the interface then pass this reference while creating the object of class Compute1 then it will work correctly.

(b)

public class Compute2 uses Convertable

{ public Compute2() { }

public void printIt(double x)

{ System.out.println(Convertable.convert(x)); }

}

It give us an error first error because this class implements the interface but donot override the method of the interface For correction we have to make it abstract or we have to override the function of interface and second error because the convert method of Convertable interface do not accept double as a parameter it just accept int so for correction we have to pass integer as a parameter in convert function.

(c)

public class Compute3

{ Convertable c;

public Compute3()

{ c = new Convertable(); }

public void printIt(int v)

{ System.out.println(c.compute(v)); }

}

First the class Compute3 do not implements the interface Convertible Second we are not allowed to creat an object of the interface Convertible and Third There is no compute function is in Convertable interface