Oops task 5 – 20bcs002(abhishek dubey)

1

**from** **math** **import** pi

**from** **abc** **import** ABC, abstractmethod

**class** **Shape**(ABC):

@abstractmethod

**def** area():

**pass**

**class** **Circle**(Shape):

**def** \_\_init\_\_(self, radius):

self.radius = radius

**def** area(self):

**return** pi\*self.radius\*\*2

**class** **Square**(Shape):

**def** \_\_init\_\_(self, side):

self.length = side

**def** area(self):

**return** self.length\*\*2

**class** **Rectangle**(Shape):

**def** \_\_init\_\_(self, length, breadth):

self.l = length

self.b = breadth

**def** area(self):

**return** self.l\*self.b

C = Circle(5)

S = Square(3)

R = Rectangle(3, 4)

print(C.area())

print(S.area())

print(R.area())

2

**from** **abc** **import** ABC, abstractmethod

**class** **Travel**():

**def** \_\_init\_\_(self, num\_pass, dist, mode):

self.\_\_number = num\_pass

self.dist = dist

self.mode = mode

**def** access\_num(self):

**return** self.\_\_number

@abstractmethod

**def** calculate\_cost(self):

**pass**

**class** **Train**(Travel):

**def** \_\_init\_\_(self, num\_pass, dist, mode):

super().\_\_init\_\_(num\_pass, dist, mode)

**def** calculate\_cost(self):

**return** 60\*self.access\_num()

**class** **Bus**(Travel):

**def** \_\_init\_\_(self, num\_pass, dist, mode):

super().\_\_init\_\_(num\_pass, dist, mode)

**def** calculate\_cost(self):

**return** 100\*self.access\_num()

A = Train(10, 20, "Tracks")

print(A.calculate\_cost())

B = Bus(10, 20, "Road")

print(B.calculate\_cost())

3

**class** **Car**:

**def** \_\_init\_\_(self, model):

self.model = model

**def** get\_model(self):

**return** self.model

c1 = Car(10)

c2 = Car(11)

c2.model, c1.model = c1.get\_model(), c2.get\_model()

print(c1.model, c2.model)