**EXERCISE: 13**

**DATE: 20.11.2020**

**AIM:**

To write a Python program to implement the class diagram.

**PROGRAM:**

**class Apparel:**

**counter = 100**

**def \_\_init\_\_(self,price,item\_type):**

**Apparel.counter+=1**

**self.\_\_item\_id=item\_type[0]+str(Apparel.counter)**

**self.\_\_price=price**

**self.\_\_item\_type=item\_type**

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

**self.\_\_price+=self.\_\_price\*0.05**

**def get\_item\_id(self):**

**return self.\_\_item\_id**

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

**return self.\_\_price**

**def get\_item\_type(self):**

**return self.\_\_item\_type**

**def set\_price(self,price):**

**self.\_\_price=price**

**return self.\_\_price**

**class Cotton(Apparel):**

**def \_\_init\_\_(self,price,discount):**

**super().\_\_init\_\_(price,'Cotton')**

**self.\_\_discount=discount**

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

**super().calculate\_price()**

**price=self.get\_price()**

**price-=price\*(self.\_\_discount/100)**

**price+=price\*0.05**

**self.set\_price(price)**

**return price**

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

**return self.\_\_discount**

**class Silk(Apparel):**

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

**super().\_\_init\_\_(price,'Silk')**

**self.\_\_points=None**

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

**super().calculate\_price()**

**if(self.get\_price()>10000):**

**self.\_\_points=10**

**else:**

**self.\_\_points=3**

**return self.set\_price(self.get\_price()+(self.get\_price()\*0.1))**

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

**return self.\_\_points**

**silk=int(input())**

**cotton=int(input())**

**discount=int(input())**

**a=Silk(silk)**

**print(a.calculate\_price())**

**b=Cotton(cotton,discount)**

**print(b.calculate\_price())**

**LINK:**

**<http://103.53.53.18/mod/vpl/forms/edit.php?id=328&userid=1797>**

**OUTPUT:**

**Input:**

**200**

**154**

**33**

**Output:**

**231.0**

**113.75595**

**RESULT:**

The output for the given class diagram is obtained successfully.