***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=1648***

***OUTPUT:***

***A screenshot of a computer screen

Description automatically generated***

***RESULT:***

*The output for the given class diagram is obtained successfully.*