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| Object Oriented Programming |
| Online Shopping Cart |
| Project Code in Java Using Eclipse |
| By |
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| A shopping cart is a piece of software that facilitates the purchase of a product or service. It accepts the customer's payment and organizes the distribution of that information to the merchant, payment processor and other parties. |



1. **Online Shopping Cart**

The code has been designed in Java language using eclipse console.

* 1. **Objective**

This Code will ask the user to log in and then will ask about how many items he wants to buy, item name, its price and its quantity.

It will make the bills & display the total amount to the user including taxes. Discount feature is also added. In the end, it will ask the user either log out or continue shopping.

The program will continue to execute until the user log out.

* 1. **Existing Solutions**

This program can be done by various methods. One of the methods is by giving static reference to attributes, methods.

This project can also be done in various other languages like JavaScript, PHP, C, C++ etc.

* 1. **Approach**

This program uses multilevel inheritance approach. This code has been made by keeping simplicity in mind, so that it can be easily understood.

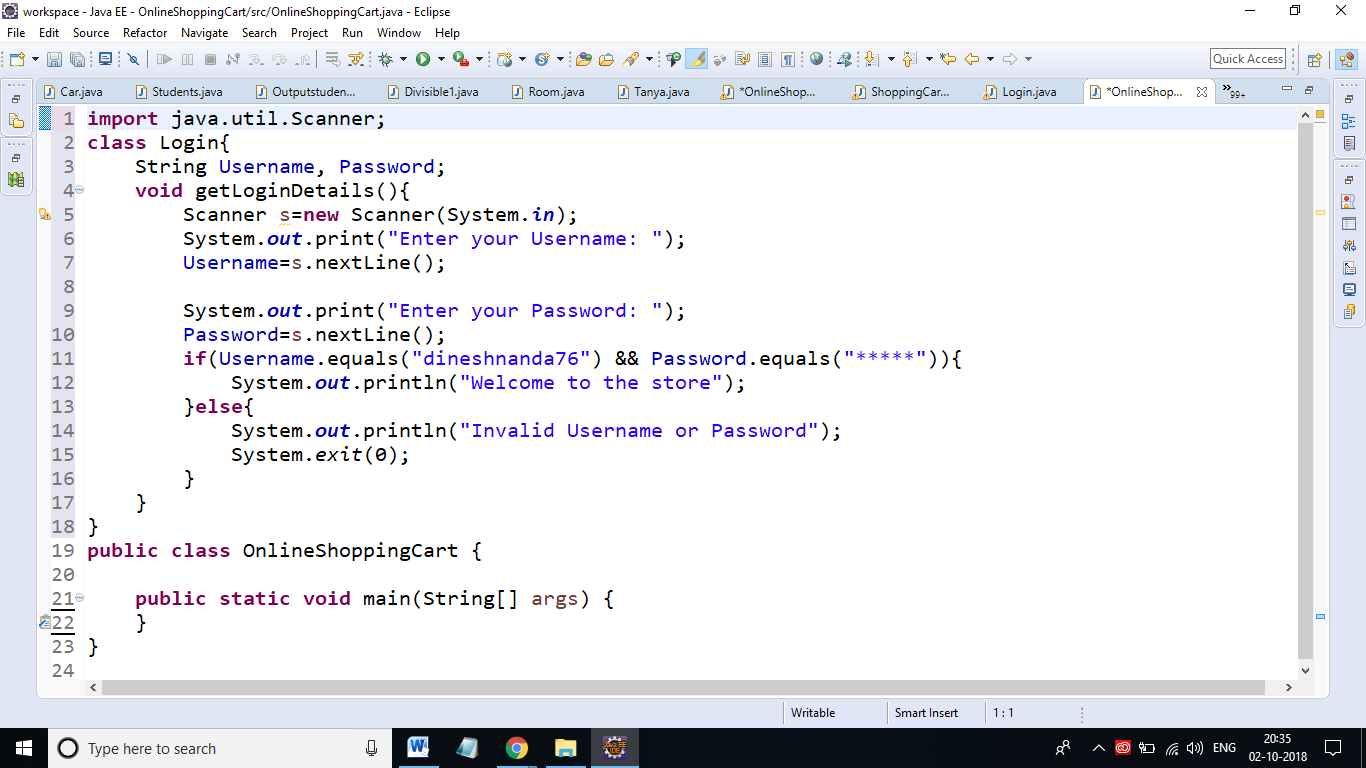
* 1. **Algorithm Design & its implementation**

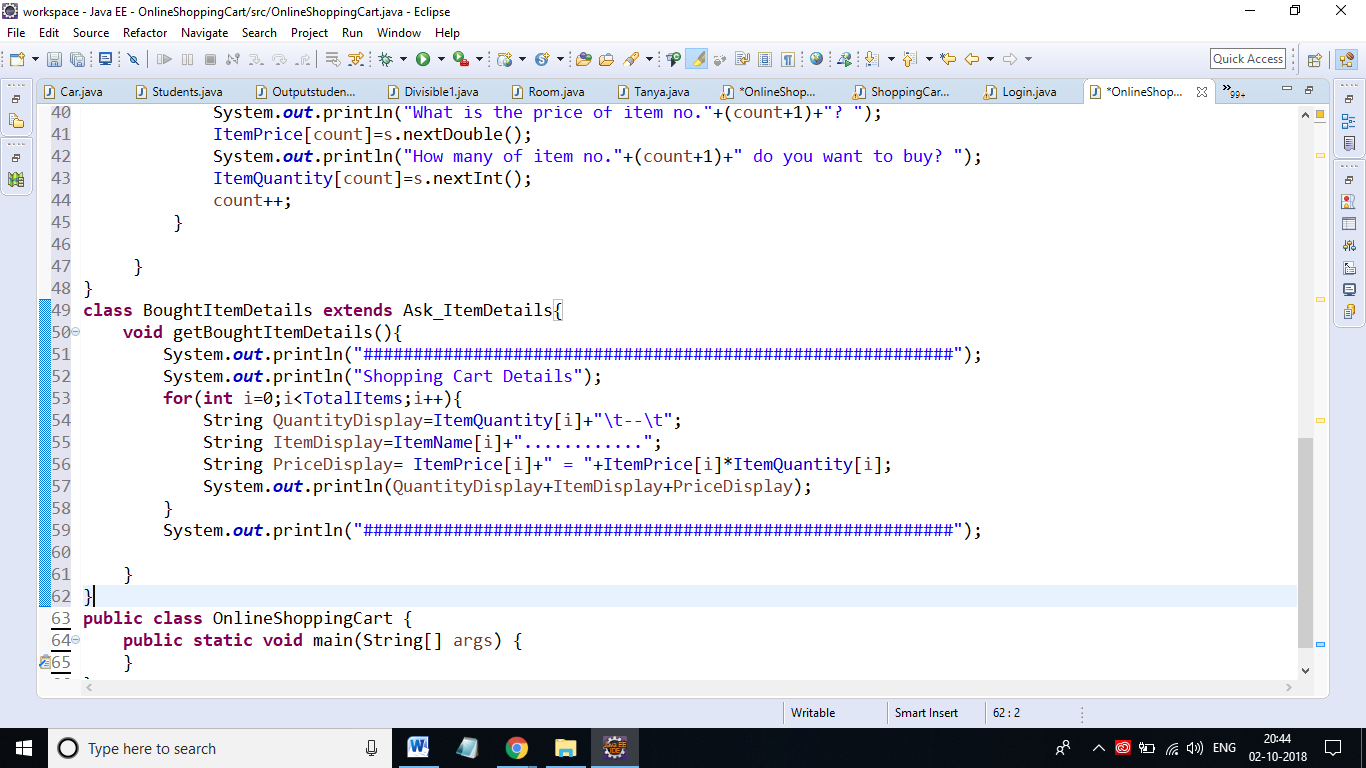
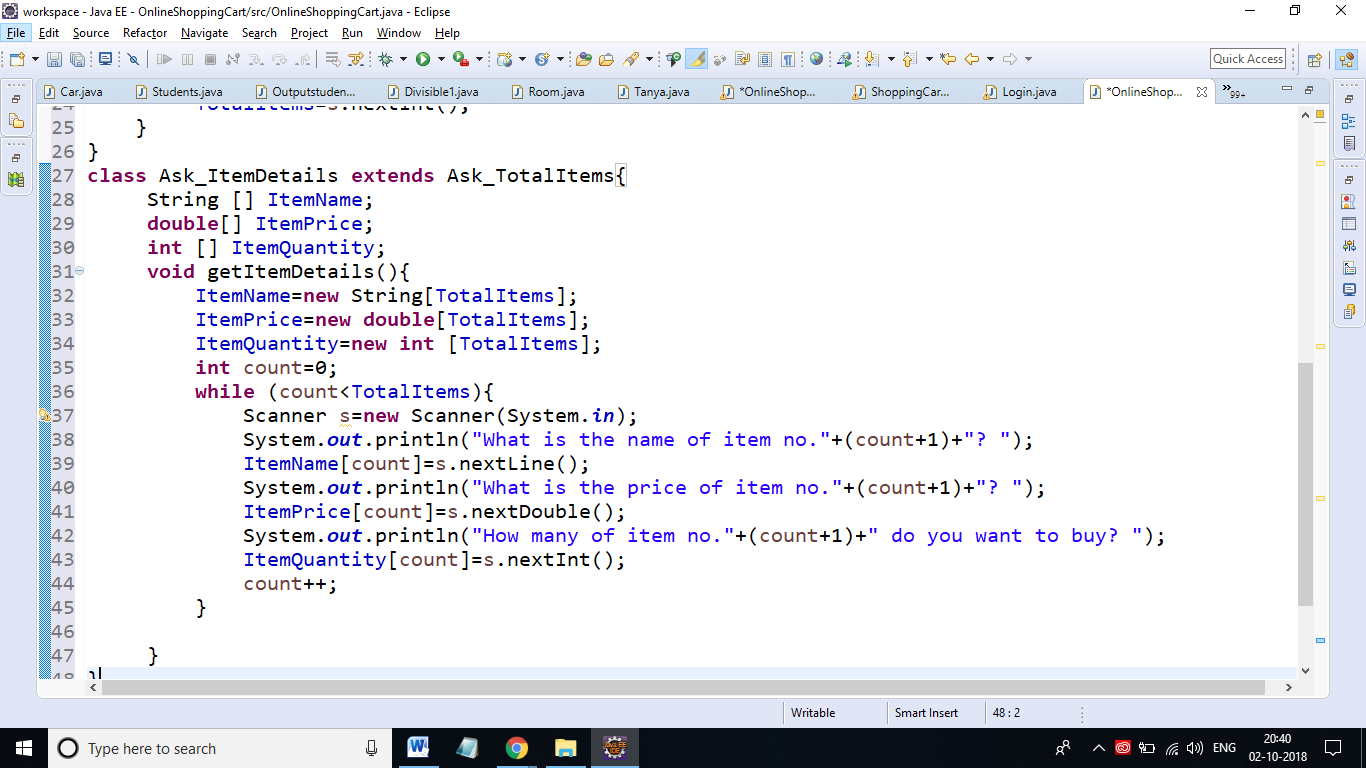
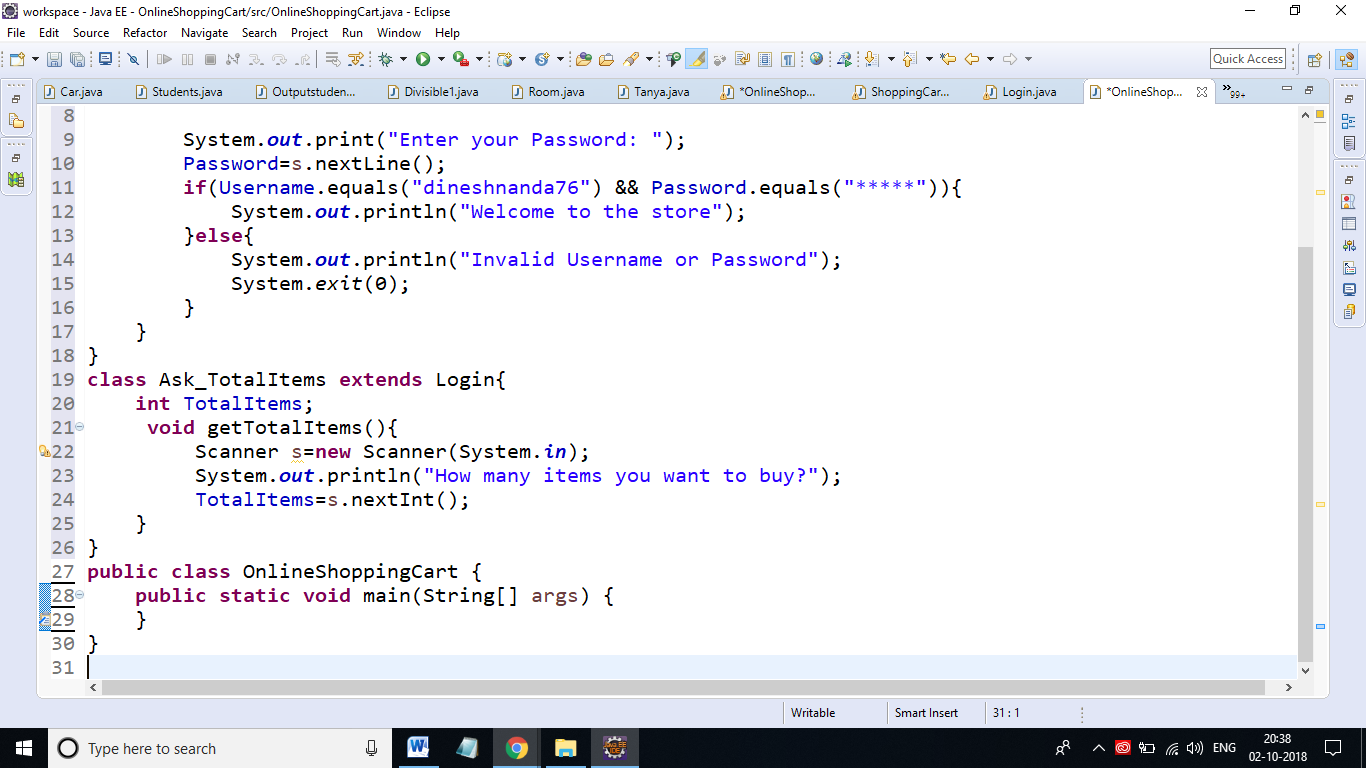
As stated above, this program uses multilevel inheritance where each class inherits from its parent class except the one class.

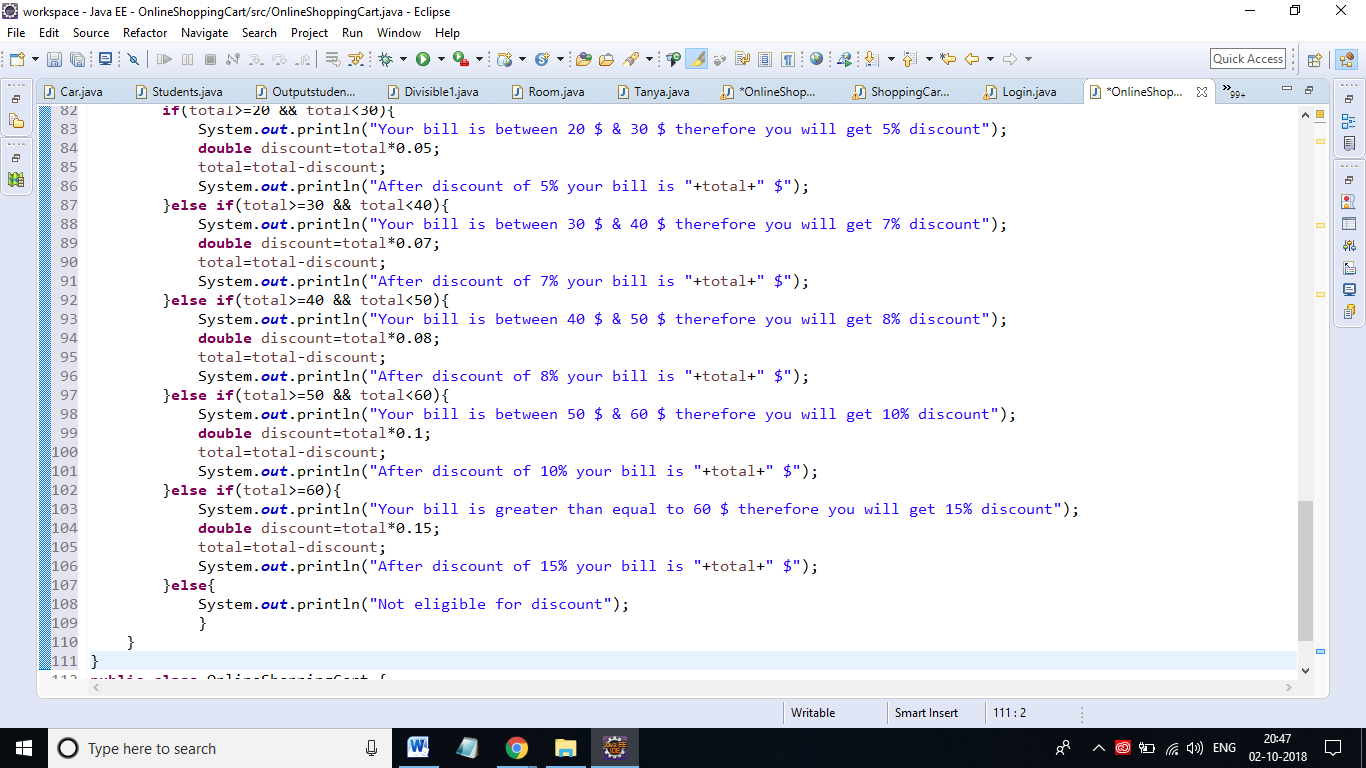
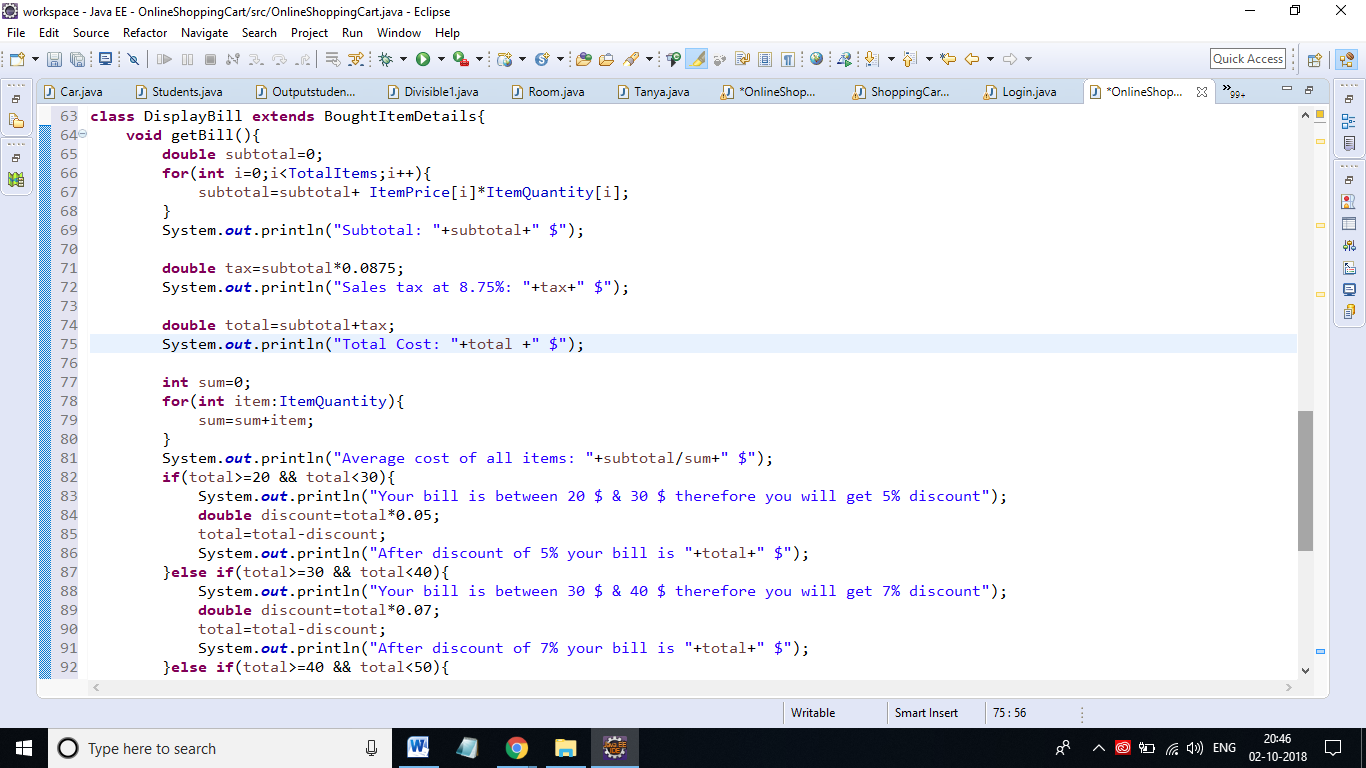
The Code will ask for username & password to log in to the online shopping store and further ask for item name, its price and its quantity. It will display bills and discounts.

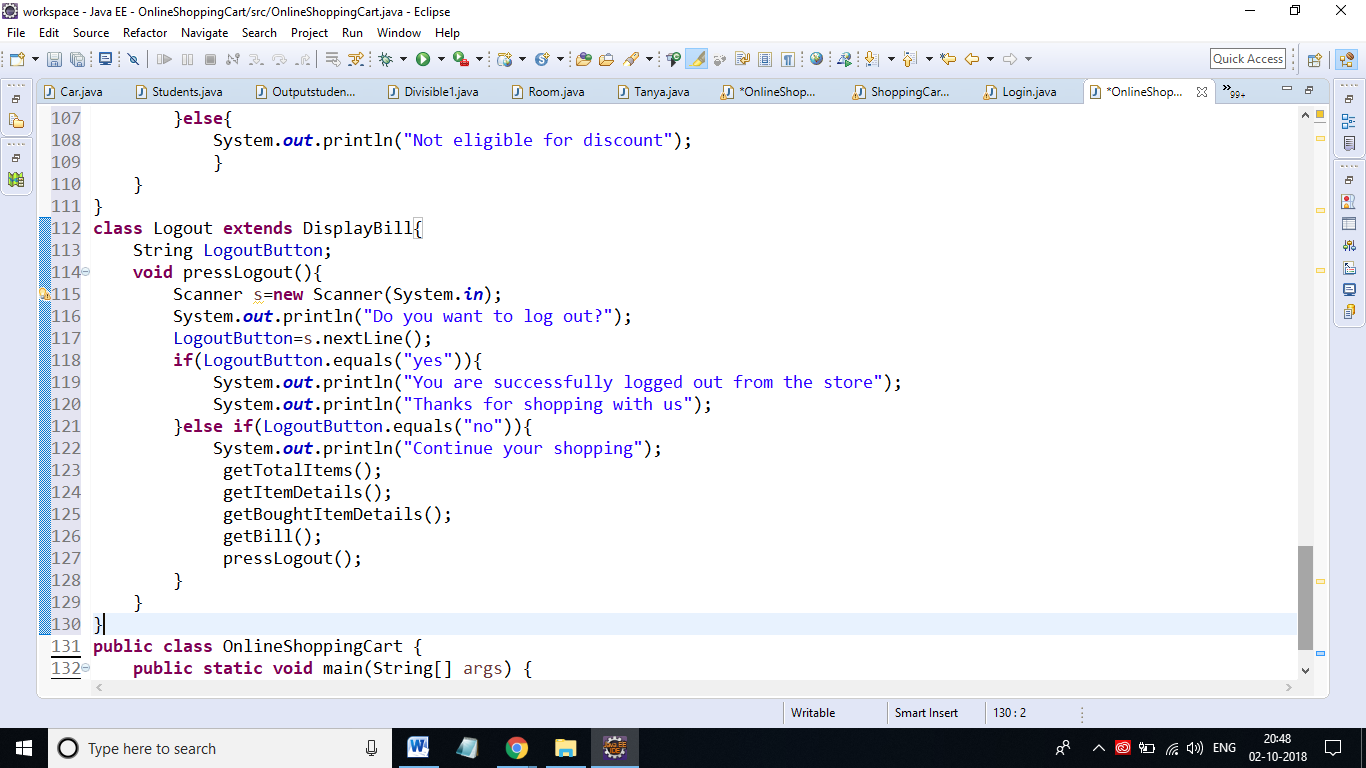
It uses six classes with methods in it and a scanner as well. Using these classes, objects are created and output is displayed.

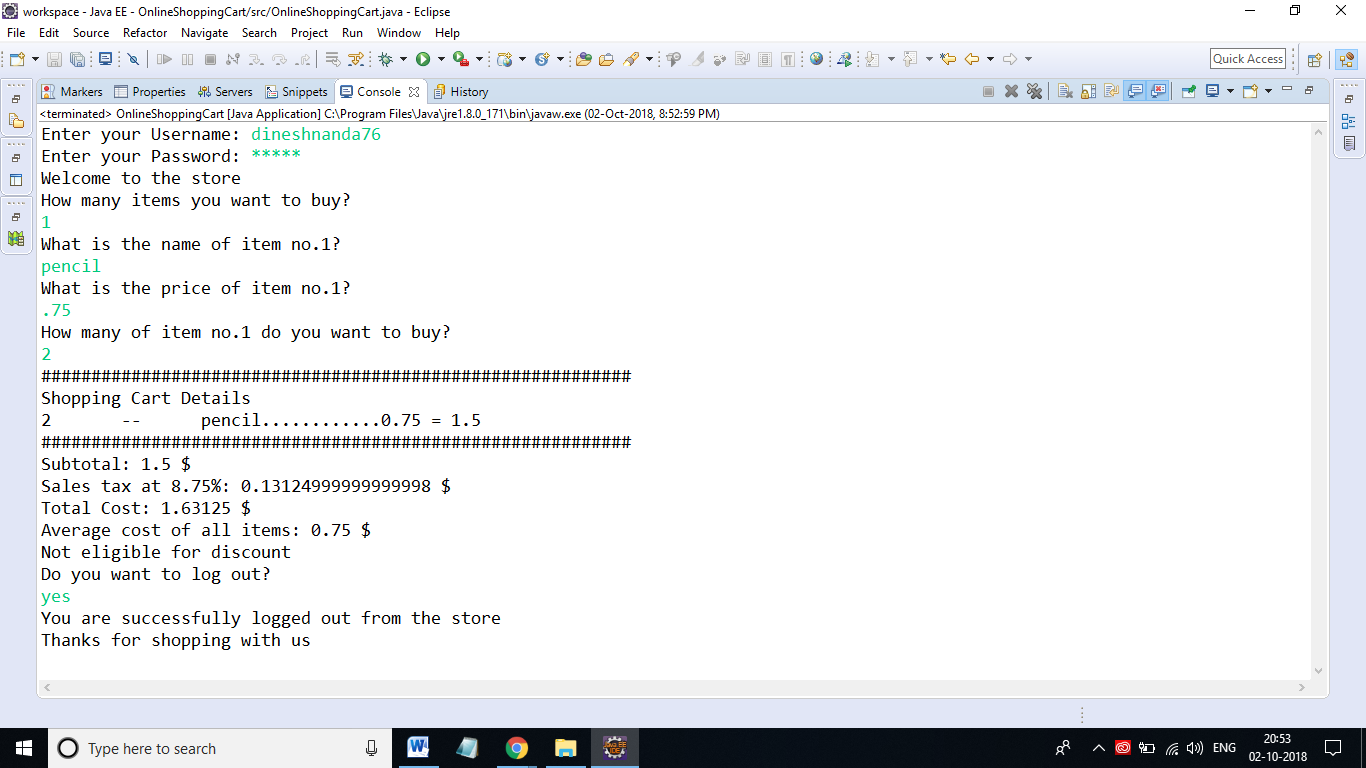
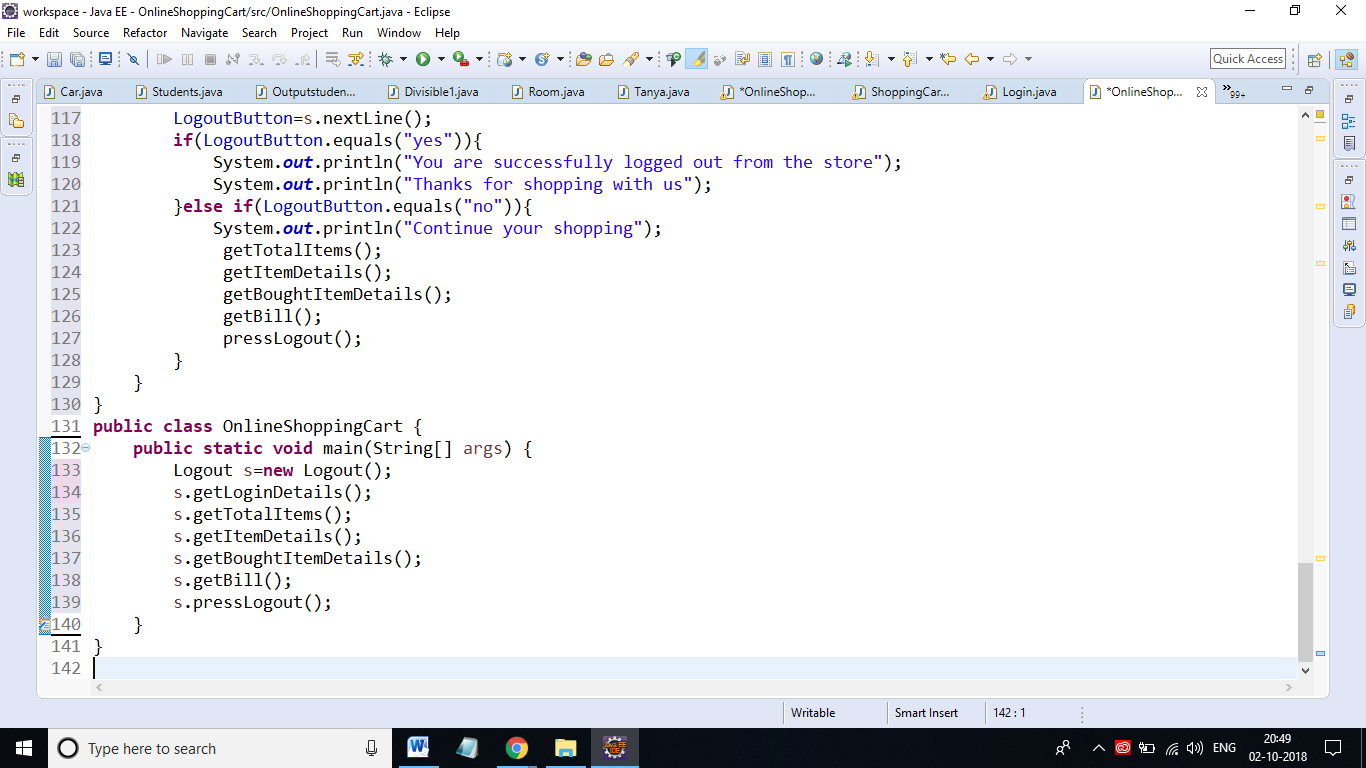
* 1. **Code Screenshots step by step:**











* 1. **Code:**

1. **import** java.util.Scanner;
2. **class** Login{
3. String Username, Password;
4. **void** getLoginDetails(){
5. Scanner s=**new** Scanner(System.***in***);
6. System.***out***.print("Enter your Username: ");
7. Username=s.nextLine();
9. System.***out***.print("Enter your Password: ");
10. Password=s.nextLine();
11. **if**(Username.equals("dineshnanda76") && Password.equals("\*\*\*\*\*")){
12. System.***out***.println("Welcome to the store");
13. }**else**{
14. System.***out***.println("Invalid Username or Password");
15. System.*exit*(0);
16. }
17. }
18. }
19. **class** Ask\_TotalItems **extends** Login{
20. **int** TotalItems;
21. **void** getTotalItems(){
22. Scanner s=**new** Scanner(System.***in***);
23. System.***out***.println("How many items you want to buy?");
24. TotalItems=s.nextInt();
25. }
26. }
27. **class** Ask\_ItemDetails **extends** Ask\_TotalItems{
28. String [] ItemName;
29. **double**[] ItemPrice;
30. **int** [] ItemQuantity;
31. **void** getItemDetails(){
32. ItemName=**new** String[TotalItems];
33. ItemPrice=**new** **double**[TotalItems];
34. ItemQuantity=**new** **int** [TotalItems];
35. **int** count=0;
36. **while** (count<TotalItems){
37. Scanner s=**new** Scanner(System.***in***);
38. System.***out***.println("What is the name of item no."+(count+1)+"? ");
39. ItemName[count]=s.nextLine();
40. System.***out***.println("What is the price of item no."+(count+1)+"? ");
41. ItemPrice[count]=s.nextDouble();
42. System.***out***.println("How many of item no."+(count+1)+" do you want to buy? ");
43. ItemQuantity[count]=s.nextInt();
44. count++;
45. }
47. }
48. }
49. **class** BoughtItemDetails **extends** Ask\_ItemDetails{
50. **void** getBoughtItemDetails(){
51. System.***out***.println("###########################################################");
52. System.***out***.println("Shopping Cart Details");
53. **for**(**int** i=0;i<TotalItems;i++){
54. String QuantityDisplay=ItemQuantity[i]+"\t--\t";
55. String ItemDisplay=ItemName[i]+"............";
56. String PriceDisplay= ItemPrice[i]+" = "+ItemPrice[i]\*ItemQuantity[i];
57. System.***out***.println(QuantityDisplay+ItemDisplay+PriceDisplay);
58. }
59. System.***out***.println("###########################################################");
61. }
62. }
63. **class** DisplayBill **extends** BoughtItemDetails{
64. **void** getBill(){
65. **double** subtotal=0;
66. **for**(**int** i=0;i<TotalItems;i++){
67. subtotal=subtotal+ ItemPrice[i]\*ItemQuantity[i];
68. }
69. System.***out***.println("Subtotal: "+subtotal+" $");
71. **double** tax=subtotal\*0.0875;
72. System.***out***.println("Sales tax at 8.75%: "+tax+" $");
74. **double** total=subtotal+tax;
75. System.***out***.println("Total Cost: "+total +" $");
77. **int** sum=0;
78. **for**(**int** item:ItemQuantity){
79. sum=sum+item;
80. }
81. System.***out***.println("Average cost of all items: "+subtotal/sum+" $");
82. **if**(total>=20 && total<30){
83. System.***out***.println("Your bill is between 20 $ & 30 $ therefore you will get 5% discount");
84. **double** discount=total\*0.05;
85. total=total-discount;
86. System.***out***.println("After discount of 5% your bill is "+total+" $");
87. }**else** **if**(total>=30 && total<40){
88. System.***out***.println("Your bill is between 30 $ & 40 $ therefore you will get 7% discount");
89. **double** discount=total\*0.07;
90. total=total-discount;
91. System.***out***.println("After discount of 7% your bill is "+total+" $");
92. }**else** **if**(total>=40 && total<50){
93. System.***out***.println("Your bill is between 40 $ & 50 $ therefore you will get 8% discount");
94. **double** discount=total\*0.08;
95. total=total-discount;
96. System.***out***.println("After discount of 8% your bill is "+total+" $");
97. }**else** **if**(total>=50 && total<60){
98. System.***out***.println("Your bill is between 50 $ & 60 $ therefore you will get 10% discount");
99. **double** discount=total\*0.1;
100. total=total-discount;
101. System.***out***.println("After discount of 10% your bill is "+total+" $");
102. }**else** **if**(total>=60){
103. System.***out***.println("Your bill is greater than equal to 60 $ therefore you will get 15% discount");
104. **double** discount=total\*0.15;
105. total=total-discount;
106. System.***out***.println("After discount of 15% your bill is "+total+" $");
107. }**else**{
108. System.***out***.println("Not eligible for discount");
109. }
110. }
111. }
112. **class** Logout **extends** DisplayBill{
113. String LogoutButton;
114. **void** pressLogout(){
115. Scanner s=**new** Scanner(System.***in***);
116. System.***out***.println("Do you want to log out?");
117. LogoutButton=s.nextLine();
118. **if**(LogoutButton.equals("yes")){
119. System.***out***.println("You are successfully logged out from the store");
120. System.***out***.println("Thanks for shopping with us");
121. }**else** **if**(LogoutButton.equals("no")){
122. System.***out***.println("Continue your shopping");
123. getTotalItems();
124. getItemDetails();
125. getBoughtItemDetails();
126. getBill();
127. pressLogout();
128. }
129. }
130. }
131. **public** **class** OnlineShoppingCart {
132. **public** **static** **void** main(String[] args) {
133. Logout s=**new** Logout();
134. s.getLoginDetails();
135. s.getTotalItems();
136. s.getItemDetails();
137. s.getBoughtItemDetails();
138. s.getBill();
139. s.pressLogout();
140. }
141. }
     1. **Conclusion**

This online shopping cart enables the user to tell the compiler how many items he/she wants to buy, item name, its price & quantity & in the end user will see the bill & might get discount depending upon the values he/she entered.