```
1    var customer= {Id:"", couponStatus:"default", payable:0, ...};
2    var coupon= {Id:"", expired:false...}
3    var availItems= {{name:"", price:0, count:0},...}
4    var selItem= {name:"", price:0, quantity:0};
5    ...
6    $document.ready(function() {
7     availItems=getItemsFromServer(url);
8     coupon= getCouponFromServer(url + customer.Id);
9     ...
10    $(".merchandise").click(addToCart);
11    $("#shopCart").click(viewCart);
12   });
13
14   function addToCart() {
15    var coupElem= $("#couponButt");
16    selItem= getItemInfo($(this));
17    for(var i=0; i<availItems.length; i++){
18     if(availItems[i].name == selItem.name)
19      availItems[i].count -= selItem.quantity;
20    }
21    var price= selItem.price * selItem.quantity;
22    if(!coupon.expired){
23     coupElem.removeClass(customer.couponStatus);
24     customer.couponStatus= coupon.Id + '-' + 'used';
25     price -= coupElem.data('value');
26     coupElem.addClass(customer.couponStatus);
27     coupon.expired=true;
28    }
29    customer.payable += price;
30   }
31
32   function viewCart(){
33    ...
34    if($("#couponButt").attr("class") == 'default' && customer.payable==0)
35     showMsg('Shopping cart is empty');
36    else
37     $("div.shopContainer").append("<p>" + "Total purchase is: $" +
        customer.payable +"</p>");
38   }
```

(a)

```
1    @Test
2    public void testCase1(){
3     Select quantity = new Select(driver.findElement(By.
        id("quantityDropDown")));
4     quantity.selectByIndex(1);
5     WebElement item = driver.findElements(By.css("merchandise"));
6     item.click();
7     WebElement cart = driver.findElements(By.id("shopCart"));
8     cart.click();
9     String expectedMsg = "Total purchase is: $70";
10    String msg=driver.findElements(By.cssSelector
        ("div.shopContainer")).getText();
11    assertEquals(msg, expectedMsg);
12   }
```

(b)