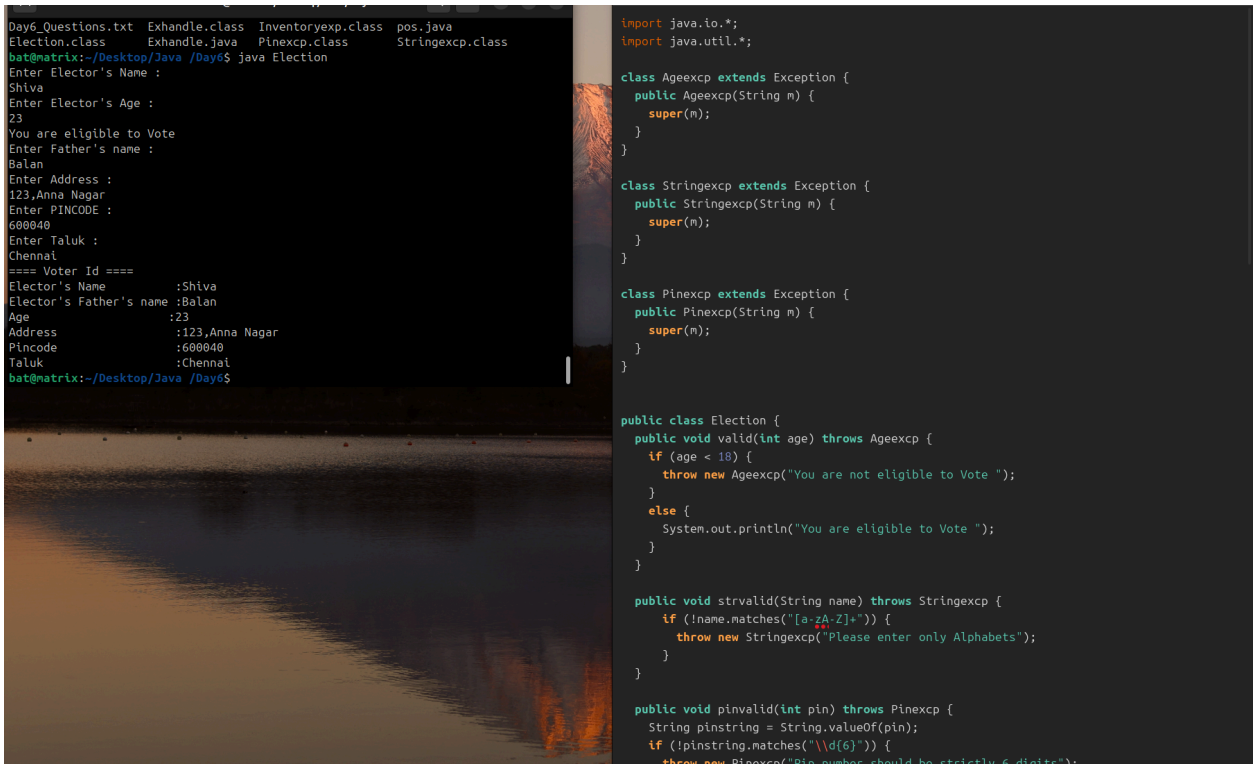
1.Exception Handling

```
import java.io.*;
import java.util.*;

class Ageexcp extends Exception {
     public Ageexcp(String m) {
          super(m);
     }
}

class Stringexcp extends Exception {
  public Stringexcp(String m) {
    super(m);
  }
}

class Pinexcp extends Exception {
  public Pinexcp(String m) {
    super(m);
  }
}


public class Election {
     public void valid(int age) throws Ageexcp {
          if (age < 18) {
               throw new Ageexcp("You are not eligible to Vote ");
          }
          else {
               System.out.println("You are eligible to Vote ");
          }
     }

     public void strvalid(String name) throws Stringexcp {
            if (!name.matches("[a-zA-Z]+")) {
              throw new Stringexcp("Please enter only Alphabets");
            }
     }

     public void pinvalid(int pin) throws Pinexcp {
       String pinstring = String.valueOf(pin);
       if (!pinstring.matches("\\d{6}")) {
         throw new Pinexcp("Pin number should be strictly 6
digits");
```

```
        }
    }

    public static void main(String[] args) {
              Scanner sc = new Scanner(System.in);
              Election e = new Election();
              try {
                System.out.println("Enter Elector's Name : ");
                String name = sc.nextLine();
                e.strvalid(name);

                    System.out.println("Enter Elector's Age : ");
                    int userage = sc.nextInt();
                    e.valid(userage);
                    sc.nextLine();

                    System.out.println("Enter Father's name :");
                    String fname = sc.nextLine();
                    e.strvalid(fname);

                    System.out.println("Enter Address : ");
                    String addr = sc.nextLine();

                    System.out.println("Enter PINCODE :");
                    int pincode = sc.nextInt();
                    e.pinvalid(pincode);
                    sc.nextLine();

                    System.out.println("Enter Taluk : ");
                    String taluk = sc.nextLine();

                    System.out.println("==== Voter Id ====
\nElector's Name          :"+name+"\nElector's Father's name :" +
fname + "\nAge                      :" + userage + "\nAddress
:" + addr + "\nPincode                  :" + pincode + "\nTaluk
:" + taluk);


              } catch (Ageexcp exp) {
                    System.out.println("Exception Caught :
"+exp.getMessage()+"\nWait until 18 to Vote...");
              } catch (Stringexcp exp) {
                System.out.println("Exception Caught :
"+exp.getMessage());
              } catch (Pinexcp exp) {
```

```
                    System.out.println("Exception Caught :
"+exp.getMessage());
                }
            }

}
```



```
Day6_Questions.txt  Exhandle.class  Inventoryexp.class  pos.java
Election.class      Exhandle.java   Pinexcp.class       Stringexcp.class
bat@matrix:~/Desktop/Java /Day6$ java Election
Enter Elector's Name :
Shiva
Enter Elector's Age :
23
You are eligible to Vote
Enter Father's name :
Balan
Enter Address :
123,Anna Nagar
Enter PINCODE :
600040
Enter Taluk :
Chennai
==== Voter Id ====
Elector's Name          :Shiva
Elector's Father's name :Balan
Age                     :23
Address                 :123,Anna Nagar
Pincode                 :600040
Taluk                   :Chennai
bat@matrix:~/Desktop/Java /Day6$
```

```
import java.io.*;
import java.util.*;

class Ageexcp extends Exception {
  public Ageexcp(String m) {
    super(m);
  }
}

class Stringexcp extends Exception {
  public Stringexcp(String m) {
    super(m);
  }
}

class Pinexcp extends Exception {
  public Pinexcp(String m) {
    super(m);
  }
}


public class Election {
  public void valid(int age) throws Ageexcp {
    if (age < 18) {
      throw new Ageexcp("You are not eligible to Vote ");
    }
    else {
      System.out.println("You are eligible to Vote ");
    }
  }

  public void strvalid(String name) throws Stringexcp {
      if (!name.matches("[a-zA-Z]+")) {
        throw new Stringexcp("Please enter only Alphabets");
      }
  }

  public void pinvalid(int pin) throws Pinexcp {
    String pinstring = String.valueOf(pin);
    if (!pinstring.matches("\\d{6}")) {
```

Output :

```
Enter Elector's Name :
Shiva
Enter Elector's Age :
23
You are eligible to Vote
Enter Father's name :
Balan
Enter Address :
123,Anna Nagar
Enter PINCODE :
600040
Enter Taluk :
Chennai
==== Voter Id ====
Elector's Name          :Shiva
Elector's Father's name :Balan
Age                     :23
```

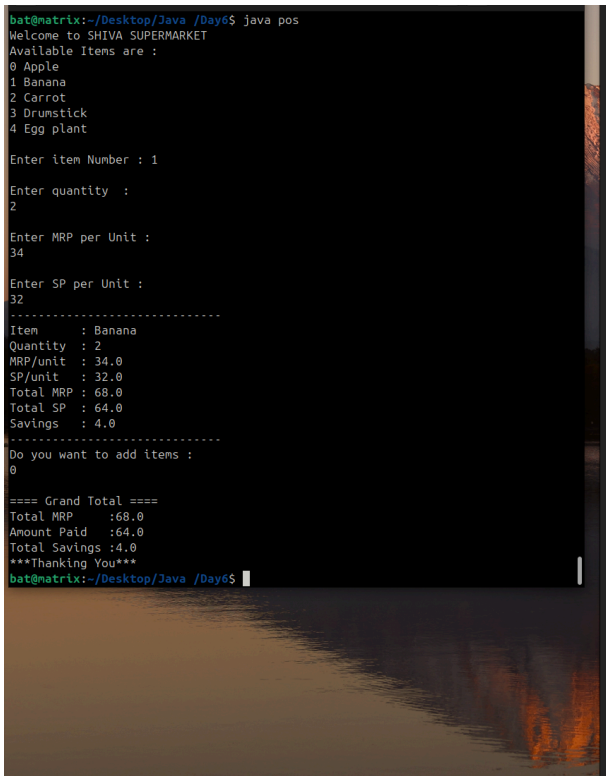
```
Address                 :123,Anna Nagar
Pincode                 :600040
Taluk                   :Chennai
```

2.pos - basic with exception

```
import java.util.*;

class Invalidexp extends Exception {
    public Invalidexp(String m) {
        super(m);
    }
}

public class pos {

  static String[] items = {"Apple","Banana","Carrot","Drumstick","Egg
plant"};

  static void display() {
    System.out.println("Available Items are : ");
           for (int i = 0; i<items.length;i++) {
             System.out.println(i+" "+items[i]);
           }
       }

  static void valid(int qty, double mrp,double sp) throws Invalidexp
{
    if (qty <= 0) throw new Invalidexp("Quantity must be greater than
zero");
    if (sp > mrp) throw new Invalidexp("Selling Price cant be greater
than the MRP");
    if (mrp <=0 || sp <=0) throw new Invalidexp("Price  must be
greater than zero");
  }

     public static void main (String[] args) {
       Scanner sc = new Scanner(System.in);

       double grandtotalmrp = 0;
       double grandtotalsp = 0;

       try {
         System.out.println("Welcome to SHIVA SUPERMARKET");
```

```
boolean addItem = true;

while(addItem) {
  display();
  System.out.print("\nEnter item Number : ");
  int choice = sc.nextInt();
  String item = items[choice];

  System.out.println("\nEnter quantity  :");
  int qty = sc.nextInt();

  System.out.println("\nEnter MRP per Unit :");
  double mrp = sc.nextDouble();

  System.out.println("\nEnter SP per Unit :");
  double sp = sc.nextDouble();

  valid(qty,mrp,sp);

  double totalmrp = qty * mrp;
  double totalsp = qty * sp;
  double savings = totalmrp - totalsp;

  grandtotalmrp += totalmrp;
  grandtotalsp += totalsp;

  System.out.println("-----------------------------");
  System.out.println("Item      : "+item);
  System.out.println("Quantity  : "+qty);
  System.out.println("MRP/unit  : "+mrp);
  System.out.println("SP/unit   : "+sp);
  System.out.println("Total MRP : "+totalmrp);
  System.out.println("Total SP  : "+totalsp);
  System.out.println("Savings   : "+savings);
  System.out.println("-----------------------------");

  System.out.println("Do you want to add items : ");
  int addon = sc.nextInt();
  if(addon == 0)
    addItem = false;
  }
  System.out.println("\n==== Grand Total ====");
  System.out.println("Total MRP     :"+grandtotalmrp);
  System.out.println("Amount Paid   :"+grandtotalsp);
```

```
            System.out.println("Total Savings
:"+(grandtotalmrp-grandtotalsp));

            }catch (ArrayIndexOutOfBoundsException e) {
                System.out.println("Exception : Item doesnot Exist");
            }catch (NumberFormatException e) {
                System.out.println("Exception : Enter only valid
Input");
            }catch (Invalidexp e) {
                System.out.println("Exception : "+e.getMessage());
            }catch (Exception e) {
                System.out.println("Exception : "+e.getMessage());
            } finally {System.out.println("***Thanking You***");}
        }
    }
```



```
static void display() {
  System.out.println("Available Items are : ");
      for (int i = 0; i<items.length;i++) {
        System.out.println(i+" "+items[i]);
      }
  }

static void valid(int qty, double mrp,double sp) throws Invalidexp {
  if (qty <= 0) throw new Invalidexp("Quantity must be greater than zero");
  if (sp > mrp) throw new Invalidexp("Selling Price cant be greater than the MRP");
  if (mrp <=0 || sp <=0) throw new Invalidexp("Price  must be greater than zero");
}

public static void main (String[] args) {
  Scanner sc = new Scanner(System.in);

  double grandtotalmrp = 0;
  double grandtotalsp = 0;

  try {
    System.out.println("Welcome to SHIVA SUPERMARKET");

    boolean addItem = true;

    while(addItem) {
      display();
      System.out.print("\nEnter item Number : ");
      int choice = sc.nextInt();
      String item = items[choice];

      System.out.println("\nEnter quantity  :");
      int qty = sc.nextInt();

      System.out.println("\nEnter MRP per Unit :");
      double mrp = sc.nextDouble();

      System.out.println("\nEnter SP per Unit :");
      double sp = sc.nextDouble();

      valid(qty,mrp,sp);

      double totalmrp = qty * mrp;
```

Output:

```
Welcome to SHIVA SUPERMARKET
Available Items are :
0 Apple
1 Banana
2 Carrot
3 Drumstick
4 Egg plant
```

```
Enter item Number : 1

Enter quantity  :
2

Enter MRP per Unit :
34

Enter SP per Unit :
32
------------------------------
Item      : Banana
Quantity  : 2
MRP/unit  : 34.0
SP/unit   : 32.0
Total MRP : 68.0
Total SP  : 64.0
Savings   : 4.0
------------------------------
Do you want to add items :
0

==== Grand Total ====
Total MRP     :68.0
Amount Paid   :64.0
Total Savings :4.0
***Thanking You***
```