CMP-4008Y Coursework 1 - Electronic Component Inventory System

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Contents

StockItem.java

```java
package com.company.StockItems;

public class StockItem implements Comparable<StockItem>
{
    protected String stockCode, extraInfo;
     protected int noOfItems, price;

     public  StockItem(String stockCode, String noOfItems,String price, String
        extraInfo)
    {
        this.stockCode = stockCode;
        //used to catch the possibility of NAN.
        try {
            this.noOfItems = Integer.parseInt(noOfItems);
            this.price = Integer.parseInt(price);
        }
        catch(Exception e){
            e.printStackTrace();
        }
        this.extraInfo = extraInfo;
    }

    public String toString()
    {
        return "Stock Code: "+this.stockCode+" Number of Items: "+noOfItems+" Price:
            "+price+"p Infomation: "+extraInfo;
    }
    public int getPrice()
    {
        return price;
    }

    public String getInfo()
    {
        return extraInfo;
    }

    public int getNumberOfItems(){return noOfItems;}

    public String getId()
    {
        return stockCode;
    }

    //When two stock items are compared it will be based off of the price.
    @Override
    public int compareTo(StockItem i) {
        if(this.getPrice() < i.getPrice()) return -1;
        if(this.getPrice() > i.getPrice()) return 1;
        else return 0;
    }
}
```

Inventory.java

```java
package com.company;
import com.company.StockItems.*;

import java.io.File;
import java.io.FileNotFoundException;
import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;

public class Inventory {
    private ArrayList<Resistor> resistorList;
    private ArrayList<Capacitor> capacitorList;
    private ArrayList<Diode> diodeList;
    private ArrayList<IC> icList;
    private ArrayList<Transistor> transistorList;
    private ArrayList<StockItem> stockItemList;
    private ArrayList<StockItem> stockItemListSorted;
    private File file;

    public Inventory(File file)
    {
        resistorList = new ArrayList<Resistor>();
        capacitorList = new ArrayList<Capacitor>();
        diodeList = new ArrayList<Diode>();
        icList = new ArrayList<IC>();
        transistorList = new ArrayList<Transistor>();
        stockItemList = new ArrayList<StockItem>();
        stockItemListSorted = new ArrayList<StockItem>();


        this.file = file;
        loadFile();
    }
    //Used to read in the file, also calls the createObejct method.
    private void loadFile()
    {
        //Try catch to prevent crashes on incorrect file paths/non-existence file.
        try
        {
            Scanner sc = new Scanner(System.in);
            sc = new Scanner(file);
            //For each line in the file a new object is created.
            while (sc.hasNextLine())
            {
                String temp = sc.nextLine();
                createObject(temp);
            }
            sc.close();
        }
        catch(FileNotFoundException e)
        {
            //Prints the stack trace and the file full file path.
            e.printStackTrace();
            System.err.println(file.getAbsolutePath());
        }
        //Adds each item type to a master list to all processing of the data.
        stockItemList.addAll(resistorList);
        stockItemList.addAll(capacitorList);
        stockItemList.addAll(diodeList);
        stockItemList.addAll(icList);
        stockItemList.addAll(transistorList);
```

```java
62        }

64        //Used to create the objects for the different types of Stock Item
          private void createObject(String string)
66        {
              String type = "", id ="", noOfItems ="", price ="", info="";

68
              //Converts the string into the attributes for the Object.
70            int count =0;
              for(int i = 0; i < string.length(); i++)
72            {
                  if (string.charAt(i) != ',')
74                {
                      switch (count)
76                    {
                          case 0:
78                            type = type + string.charAt(i);
                              break;
80                        case 1:
                              id = id + string.charAt(i);
82                            break;
                          case 2:
84                            noOfItems = noOfItems + string.charAt(i);
                              break;
86                        case 3:
                              price = price + string.charAt(i);
88                            break;
                          case 4:
90                            info= info + string.charAt(i);
                              break;
92                    }
                  }
94                else{
                      i++;
96                    count++;
                  }
98
              }
100       //determines the stock item type to place in the correct array list.
          switch(type){
102           case "resistor":
                  resistorList.add(new Resistor(id,noOfItems,price,info));
104               break;
              case "capacitor":
106               capacitorList.add(new Capacitor(id,noOfItems,price,info));
                  break;
108           case "diode":
                  diodeList.add(new Diode(id,noOfItems,price,info));
110               break;
              case "IC":
112               icList.add(new IC(id,noOfItems,price,info));
                  break;
114           case "transistor":
                  transistorList.add(new Transistor(id,noOfItems,price,info));
116               break;
              default:
118               //System.out.println("Type " + type + " Not found");
                  break;
120
          }
122       //File reader test:
          //System.out.println(type +" "+id+" "+noOfItems+" "+price+" "+info);
124   }
```

4

```java
126      //Task Answers:
         //1:
128      public void sortInvent(){
             stockItemListSorted.addAll(MergeSort.sort(stockItemList));
130          System.out.println(stockItemListSorted);
         }
132
         //2:
134      public void  largestNoComponents(){
             StockItem max = new StockItem("0","0" ,"0" ,"0");
136          for(StockItem i: stockItemList){
               if(i.getNumberOfItems() > max.getNumberOfItems()){
138                  max = i;
               }
140        }


142      System.out.println("The largest number of components  " + max.getId());


144

         }
146      //3:
         public void getNPN(){
148          int count =0;
             for (Transistor i: transistorList ){
150              if(i.getInfo().equals("NPN")){
                     count += i.getNumberOfItems();
152              }
             }
154          System.out.println("There are: "+count+" NPN transistors");
         }
156
         //4:
158      public void totalResistance(){
             double total = 0;
160          for(Resistor i: resistorList){
                 total += i.totalResistnace();
162          }
             System.out.println("Total Resistance: " + total + " \u03A9");
164      }

166      //5:
         public void aboveX(int x){
168          int count = 0;
             for(StockItem i: stockItemListSorted){
170              if(i.getPrice() > x){
                     break;
172              }
                 else{
174                  count++;
                 }
176          }
             List<StockItem> out = stockItemListSorted.subList(count, stockItemListSorted.
                 size());
178          System.out.println("Items above " +x+ "p: "+ out.size());
         }
180  }
```

StockProgram.java

```java
/*        * Project            : Basic Inventroy System
          *
          * Program name       : StockProgram.java
          *
          * Author             : afa19aeu
          *
          * Date created       : 25/11/19
          *

          * Purpose            : To allow the user to import an inventory of items with
              a text file.
*/

package com.company;
import java.io.File;

public class StockProgram
{
    public static final File file = new File( "inventory.txt");
    //Creates a array list of items
    public static void main(String[] args)
    {
        //Creates a new inventory for the file.
        Inventory iv = new Inventory(file);

        //Answer to the first requirement.
        iv.sortInvent();
        System.out.println();
        //Answer to the second requirement.
        iv.largestNoComponents();
        System.out.println();
        //Answer to the third requirement.
        iv.totalResistance();
        System.out.println();
        //Answer to the forth requirement.
        iv.getNPN();
        System.out.println();
        //Answer to the last requirement.
        iv.aboveX(10);
    }


}
```

Capacitor.java

```java
package com.company.StockItems;

public class Capacitor extends StockItem
{
    public static final String NAME = "Capacitor";

    public Capacitor(String stockCode, String noOfItems, String price, String
        extraInfo) {
        super(stockCode, noOfItems, price, extraInfo);
    }
    @Override
    public String toString(){
        return this.NAME +": "+ super.toString() + "F \n";
    }
    public String getName(){
        return this.NAME;
    }
}
```

Diode.java

```java
package com.company.StockItems;

public class Diode extends StockItem {

    public static final String NAME = "Diode";

    public Diode(String stockCode, String noOfItems, String price, String extraInfo)
        {
        super(stockCode, noOfItems, price, "Null");
    }
    public String toString(){
        return this.NAME +": "+ super.toString() + "\n";
    }

    public String getName(){
        return this.NAME;
    }
}
```

IC.java

```java
package com.company.StockItems;

public class IC extends StockItem {

    public static final String NAME = "IC";

    public IC(String stockCode, String noOfItems, String price, String extraInfo) {
        super(stockCode, noOfItems, price, extraInfo);
    }

    public String toString(){
        return this.NAME +": "+ super.toString() + "\n";
    }

    public String getName(){
        return this.NAME;
    }
}
```

Resistor.java

```java
package com.company.StockItems;

public class Resistor extends StockItem
{
public static final String NAME = "Resistor";

    public Resistor(String stockCode, String noOfItems, String price, String
        extraInfo) {
         super(stockCode, noOfItems, price, extraInfo);
    }


    @Override
    public String toString()
    {
        return this.NAME +": "+super.toString() +"\u03A9 \n";
    }

    public String getName(){
        return this.NAME;
    }

    //This method just multiples the resistance with the number of items.
    public double totalResistnace(){
        double resistance = Double.valueOf(extraInfo);
        return resistance * noOfItems;
    }

}
```

Transistor.java

```java
package com.company.StockItems;

public class Transistor extends StockItem {

    public static final String NAME = "Transistor";

    public Transistor(String stockCode, String noOfItems, String price, String
        extraInfo) {
        super(stockCode, noOfItems, price, extraInfo);
    }

    public String toString(){
        return this.NAME +": "+ super.toString() + "\n";
    }

    public String getName(){
        return this.NAME;
    }

}
```

MergeSort.java

```java
//This implements MergeSort, this is a recursive algorithm. O(nlog(n))

package com.company;

import com.company.StockItems.*;

import java.util.ArrayList;
import java.util.Iterator;
import java.util.List;

public class MergeSort {

    public static List<StockItem> sort(List<StockItem> arr){
        // if the array is of one or less elements its sorted
        if (arr.size() <= 1) return arr;

        //mid point is Size/2, therefore 1 more than middle index due to 0 indexing.
        int mid = arr.size() /2;

        //Creates a left and right branch around the mid point.
        List<StockItem> left = arr.subList(0, mid);
        List<StockItem> right = arr.subList(mid, arr.size());

        //Recursively calls the algorithm, until each branch has one element.
        right = sort(right);
        left = sort(left);

        //Calls the merge method, to bring the branches back together in order.
        List<StockItem> result = merge(left, right);

        return result;

    }

    public static List<StockItem> merge(List<StockItem> left, List<StockItem> right){

        List<StockItem> result = new ArrayList<StockItem>();
        Iterator<StockItem> it1 = left.iterator();
        Iterator<StockItem> it2 = right.iterator();

        StockItem x = it1.next();
        StockItem y = it2.next();

        while(true){
            // uses the implementation of the compareTo method in the StockItem class
            // , this looks at price.
            if(x.compareTo(y) <= 0){ //when they're equal, or x < y.
                result.add(x);
                if(it1.hasNext()){
                    x = it1.next(); //Iterates the value of x.
                }else{
                    result.add(y); //if there are no x values left.
                    while(it2.hasNext()){
                        result.add(it2.next()); //add all the y(remainder unsorted)
                            vales to result.
                    }
                    break;
                }
            }else{ // if y < x
                result.add(y);
                if(it2.hasNext()){
```

```java
                           y = it2.next(); //Iterates the value of y.
61                     }else {
                           result.add(x); //if there are no y values left.
63                     while (it1.hasNext()) {
                               result.add(it1.next()); // add all x(remainder unsorted) to
                                   result.
65                     }
                       break;
67                 }
           }

69
           }
71     return result;
     }
73 }

75 /* SUDO code from: https://rosettacode.org/wiki/Sorting_algorithms/Merge_sort#Java
   * function mergesort(m)
77    var list left, right, result
     if length(m)  1
79        return m
     else
81        var middle = length(m) / 2
         for each x in m up to middle - 1
83            add x to left
         for each x in m at and after middle
85            add x to right
         left = mergesort(left)
87        right = mergesort(right)
         if last(left)  first(right)
89            append right to left
             return left
91        result = merge(left, right)
         return result

93
   function merge(left,right)
95    var list result
     while length(left) > 0 and length(right) > 0
97        if first(left)  first(right)
             append first(left) to result
99            left = rest(left)
         else
101           append first(right) to result
             right = rest(right)
103   if length(left) > 0
         append rest(left) to result
105   if length(right) > 0
         append rest(right) to result
107   return result
   * */
```

Application

Compiler Invocation

```
javac.exe -Xlint:unchecked -Xlint:deprecation -d classes StockItem.java Inventory.
    java StockProgram.java Capacitor.java Diode.java IC.java Resistor.java Transistor
    .java MergeSort.java
```

Compiler Messages

None.

Application Invocation

```
javaw.exe com.company.StockProgram
```

Messages to STDOUT

```
[Resistor: Stock Code: RES_1R0 Number of Items: 41 Price: 1p Infomation: 1?
, Resistor: Stock Code: RES_10R Number of Items: 467 Price: 1p Infomation: 10?
, Resistor: Stock Code: RES_100R Number of Items: 334 Price: 1p Infomation: 100?
, Resistor: Stock Code: RES_1K0 Number of Items: 500 Price: 1p Infomation: 1000?
, Resistor: Stock Code: RES_10K Number of Items: 169 Price: 1p Infomation: 10000?
, Resistor: Stock Code: RES_100K Number of Items: 724 Price: 1p Infomation: 100000?
, Resistor: Stock Code: RES_1M0 Number of Items: 478 Price: 1p Infomation: 1e+06?
, Resistor: Stock Code: RES_10M Number of Items: 358 Price: 1p Infomation: 1e+07?
, Resistor: Stock Code: RES_1R1 Number of Items: 962 Price: 1p Infomation: 1.1?
, Resistor: Stock Code: RES_11R Number of Items: 464 Price: 1p Infomation: 11?
, Resistor: Stock Code: RES_110R Number of Items: 705 Price: 1p Infomation: 110?
, Resistor: Stock Code: RES_1K1 Number of Items: 145 Price: 1p Infomation: 1100?
, Resistor: Stock Code: RES_11K Number of Items: 281 Price: 1p Infomation: 11000?
, Resistor: Stock Code: RES_110K Number of Items: 827 Price: 1p Infomation: 110000?
, Resistor: Stock Code: RES_1M1 Number of Items: 961 Price: 1p Infomation: 1.1e+06?
, Resistor: Stock Code: RES_11M Number of Items: 491 Price: 1p Infomation: 1.1e+07?
, Resistor: Stock Code: RES_1R2 Number of Items: 995 Price: 1p Infomation: 1.2?
, Resistor: Stock Code: RES_12R Number of Items: 942 Price: 1p Infomation: 12?
, Resistor: Stock Code: RES_120R Number of Items: 827 Price: 1p Infomation: 120?
, Resistor: Stock Code: RES_1K2 Number of Items: 436 Price: 1p Infomation: 1200?
, Resistor: Stock Code: RES_12K Number of Items: 391 Price: 1p Infomation: 12000?
, Resistor: Stock Code: RES_120K Number of Items: 604 Price: 1p Infomation: 120000?
, Resistor: Stock Code: RES_1M2 Number of Items: 902 Price: 1p Infomation: 1.2e+06?
, Resistor: Stock Code: RES_12M Number of Items: 153 Price: 1p Infomation: 1.2e+07?
, Resistor: Stock Code: RES_1R3 Number of Items: 292 Price: 1p Infomation: 1.3?
, Resistor: Stock Code: RES_13R Number of Items: 382 Price: 1p Infomation: 13?
, Resistor: Stock Code: RES_130R Number of Items: 421 Price: 1p Infomation: 130?
, Resistor: Stock Code: RES_1K3 Number of Items: 716 Price: 1p Infomation: 1300?
, Resistor: Stock Code: RES_13K Number of Items: 718 Price: 1p Infomation: 13000?
, Resistor: Stock Code: RES_130K Number of Items: 895 Price: 1p Infomation: 130000?
, Resistor: Stock Code: RES_1M3 Number of Items: 447 Price: 1p Infomation: 1.3e+06?
, Resistor: Stock Code: RES_13M Number of Items: 726 Price: 1p Infomation: 1.3e+07?
, Resistor: Stock Code: RES_1R5 Number of Items: 771 Price: 1p Infomation: 1.5?
, Resistor: Stock Code: RES_15R Number of Items: 538 Price: 1p Infomation: 15?
, Resistor: Stock Code: RES_150R Number of Items: 869 Price: 1p Infomation: 150?
, Resistor: Stock Code: RES_1K5 Number of Items: 912 Price: 1p Infomation: 1500?
, Resistor: Stock Code: RES_15K Number of Items: 667 Price: 1p Infomation: 15000?
, Resistor: Stock Code: RES_150K Number of Items: 299 Price: 1p Infomation: 150000?
, Resistor: Stock Code: RES_1M5 Number of Items: 35 Price: 1p Infomation: 1.5e+06?
, Resistor: Stock Code: RES_15M Number of Items: 894 Price: 1p Infomation: 1.5e+07?
, Resistor: Stock Code: RES_1R6 Number of Items: 703 Price: 1p Infomation: 1.6?
, Resistor: Stock Code: RES_16R Number of Items: 811 Price: 1p Infomation: 16?
, Resistor: Stock Code: RES_160R Number of Items: 322 Price: 1p Infomation: 160?
, Resistor: Stock Code: RES_1K6 Number of Items: 333 Price: 1p Infomation: 1600?
, Resistor: Stock Code: RES_16K Number of Items: 673 Price: 1p Infomation: 16000?
, Resistor: Stock Code: RES_160K Number of Items: 664 Price: 1p Infomation: 160000?
```

, Resistor: Stock Code: RES_1M6 Number of Items: 141 Price: 1p Infomation: 1.6e+06?
, Resistor: Stock Code: RES_16M Number of Items: 711 Price: 1p Infomation: 1.6e+07?
, Resistor: Stock Code: RES_1R8 Number of Items: 253 Price: 1p Infomation: 1.8?
, Resistor: Stock Code: RES_18R Number of Items: 868 Price: 1p Infomation: 18?
, Resistor: Stock Code: RES_180R Number of Items: 547 Price: 1p Infomation: 180?
, Resistor: Stock Code: RES_1K8 Number of Items: 644 Price: 1p Infomation: 1800?
, Resistor: Stock Code: RES_18K Number of Items: 662 Price: 1p Infomation: 18000?
, Resistor: Stock Code: RES_180K Number of Items: 757 Price: 1p Infomation: 180000?
, Resistor: Stock Code: RES_1M8 Number of Items: 37 Price: 1p Infomation: 1.8e+06?
, Resistor: Stock Code: RES_18M Number of Items: 859 Price: 1p Infomation: 1.8e+07?
, Resistor: Stock Code: RES_2R0 Number of Items: 723 Price: 1p Infomation: 2?
, Resistor: Stock Code: RES_20R Number of Items: 741 Price: 1p Infomation: 20?
, Resistor: Stock Code: RES_200R Number of Items: 529 Price: 1p Infomation: 200?
, Resistor: Stock Code: RES_2K0 Number of Items: 778 Price: 1p Infomation: 2000?
, Resistor: Stock Code: RES_20K Number of Items: 316 Price: 1p Infomation: 20000?
, Resistor: Stock Code: RES_200K Number of Items: 35 Price: 1p Infomation: 200000?
, Resistor: Stock Code: RES_2M0 Number of Items: 190 Price: 1p Infomation: 2e+06?
, Resistor: Stock Code: RES_20M Number of Items: 842 Price: 1p Infomation: 2e+07?
, Resistor: Stock Code: RES_2R2 Number of Items: 288 Price: 1p Infomation: 2.2?
, Resistor: Stock Code: RES_22R Number of Items: 106 Price: 1p Infomation: 22?
, Resistor: Stock Code: RES_220R Number of Items: 40 Price: 1p Infomation: 220?
, Resistor: Stock Code: RES_2K2 Number of Items: 942 Price: 1p Infomation: 2200?
, Resistor: Stock Code: RES_22K Number of Items: 264 Price: 1p Infomation: 22000?
, Resistor: Stock Code: RES_220K Number of Items: 648 Price: 1p Infomation: 220000?
, Resistor: Stock Code: RES_2M2 Number of Items: 446 Price: 1p Infomation: 2.2e+06?
, Resistor: Stock Code: RES_22M Number of Items: 805 Price: 1p Infomation: 2.2e+07?
, Resistor: Stock Code: RES_2R4 Number of Items: 890 Price: 1p Infomation: 2.4?
, Resistor: Stock Code: RES_24R Number of Items: 729 Price: 1p Infomation: 24?
, Resistor: Stock Code: RES_240R Number of Items: 370 Price: 1p Infomation: 240?
, Resistor: Stock Code: RES_2K4 Number of Items: 350 Price: 1p Infomation: 2400?
, Resistor: Stock Code: RES_24K Number of Items: 6 Price: 1p Infomation: 24000?
, Resistor: Stock Code: RES_240K Number of Items: 101 Price: 1p Infomation: 240000?
, Resistor: Stock Code: RES_2M4 Number of Items: 393 Price: 1p Infomation: 2.4e+06?
, Resistor: Stock Code: RES_24M Number of Items: 548 Price: 1p Infomation: 2.4e+07?
, Resistor: Stock Code: RES_2R7 Number of Items: 629 Price: 1p Infomation: 2.7?
, Resistor: Stock Code: RES_27R Number of Items: 623 Price: 1p Infomation: 27?
, Resistor: Stock Code: RES_270R Number of Items: 84 Price: 1p Infomation: 270?
, Resistor: Stock Code: RES_2K7 Number of Items: 954 Price: 1p Infomation: 2700?
, Resistor: Stock Code: RES_27K Number of Items: 756 Price: 1p Infomation: 27000?
, Resistor: Stock Code: RES_270K Number of Items: 840 Price: 1p Infomation: 270000?
, Resistor: Stock Code: RES_2M7 Number of Items: 966 Price: 1p Infomation: 2.7e+06?
, Resistor: Stock Code: RES_27M Number of Items: 376 Price: 1p Infomation: 2.7e+07?
, Resistor: Stock Code: RES_3R0 Number of Items: 931 Price: 1p Infomation: 3?
, Resistor: Stock Code: RES_30R Number of Items: 308 Price: 1p Infomation: 30?
, Resistor: Stock Code: RES_300R Number of Items: 944 Price: 1p Infomation: 300?
, Resistor: Stock Code: RES_3K0 Number of Items: 439 Price: 1p Infomation: 3000?
, Resistor: Stock Code: RES_30K Number of Items: 626 Price: 1p Infomation: 30000?
, Resistor: Stock Code: RES_300K Number of Items: 323 Price: 1p Infomation: 300000?
, Resistor: Stock Code: RES_3M0 Number of Items: 537 Price: 1p Infomation: 3e+06?
, Resistor: Stock Code: RES_30M Number of Items: 538 Price: 1p Infomation: 3e+07?
, Resistor: Stock Code: RES_3R3 Number of Items: 118 Price: 1p Infomation: 3.3?
, Resistor: Stock Code: RES_33R Number of Items: 82 Price: 1p Infomation: 33?
, Resistor: Stock Code: RES_330R Number of Items: 929 Price: 1p Infomation: 330?
, Resistor: Stock Code: RES_3K3 Number of Items: 541 Price: 1p Infomation: 3300?
, Resistor: Stock Code: RES_33K Number of Items: 833 Price: 1p Infomation: 33000?
, Application: Stock Code: RES_330K Number of Items: 115 Price: 1p Infomation: 330000?
, Resistor: Stock Code: RES_3M3 Number of Items: 639 Price: 1p Infomation: 3.3e+06?
, Resistor: Stock Code: RES_33M Number of Items: 658 Price: 1p Infomation: 3.3e+07?
, Resistor: Stock Code: RES_3R6 Number of Items: 704 Price: 1p Infomation: 3.6?
, Resistor: Stock Code: RES_36R Number of Items: 930 Price: 1p Infomation: 36?
, Resistor: Stock Code: RES_360R Number of Items: 977 Price: 1p Infomation: 360?
, Resistor: Stock Code: RES_3K6 Number of Items: 306 Price: 1p Infomation: 3600?
, Resistor: Stock Code: RES_36K Number of Items: 673 Price: 1p Infomation: 36000?

```
, Resistor: Stock Code: RES_360K Number of Items: 386 Price: 1p Infomation: 360000?
, Resistor: Stock Code: RES_3M6 Number of Items: 21 Price: 1p Infomation: 3.6e+06?
, Resistor: Stock Code: RES_36M Number of Items: 745 Price: 1p Infomation: 3.6e+07?
, Resistor: Stock Code: RES_3R9 Number of Items: 924 Price: 1p Infomation: 3.9?
, Resistor: Stock Code: RES_39R Number of Items: 72 Price: 1p Infomation: 39?
, Resistor: Stock Code: RES_390R Number of Items: 270 Price: 1p Infomation: 390?
, Resistor: Stock Code: RES_3K9 Number of Items: 829 Price: 1p Infomation: 3900?
, Resistor: Stock Code: RES_39K Number of Items: 777 Price: 1p Infomation: 39000?
, Resistor: Stock Code: RES_390K Number of Items: 573 Price: 1p Infomation: 390000?
, Resistor: Stock Code: RES_3M9 Number of Items: 97 Price: 1p Infomation: 3.9e+06?
, Resistor: Stock Code: RES_39M Number of Items: 512 Price: 1p Infomation: 3.9e+07?
, Resistor: Stock Code: RES_4R3 Number of Items: 986 Price: 1p Infomation: 4.3?
, Resistor: Stock Code: RES_43R Number of Items: 290 Price: 1p Infomation: 43?
, Resistor: Stock Code: RES_430R Number of Items: 161 Price: 1p Infomation: 430?
, Resistor: Stock Code: RES_4K3 Number of Items: 636 Price: 1p Infomation: 4300?
, Resistor: Stock Code: RES_43K Number of Items: 355 Price: 1p Infomation: 43000?
, Resistor: Stock Code: RES_430K Number of Items: 767 Price: 1p Infomation: 430000?
, Resistor: Stock Code: RES_4M3 Number of Items: 655 Price: 1p Infomation: 4.3e+06?
, Resistor: Stock Code: RES_43M Number of Items: 574 Price: 1p Infomation: 4.3e+07?
, Resistor: Stock Code: RES_4R7 Number of Items: 31 Price: 1p Infomation: 4.7?
, Resistor: Stock Code: RES_47R Number of Items: 52 Price: 1p Infomation: 47?
, Resistor: Stock Code: RES_470R Number of Items: 350 Price: 1p Infomation: 470?
, Resistor: Stock Code: RES_4K7 Number of Items: 150 Price: 1p Infomation: 4700?
, Resistor: Stock Code: RES_47K Number of Items: 941 Price: 1p Infomation: 47000?
, Resistor: Stock Code: RES_470K Number of Items: 724 Price: 1p Infomation: 470000?
, Resistor: Stock Code: RES_4M7 Number of Items: 966 Price: 1p Infomation: 4.7e+06?
, Resistor: Stock Code: RES_47M Number of Items: 430 Price: 1p Infomation: 4.7e+07?
, Resistor: Stock Code: RES_5R1 Number of Items: 107 Price: 1p Infomation: 5.1?
, Resistor: Stock Code: RES_51R Number of Items: 191 Price: 1p Infomation: 51?
, Resistor: Stock Code: RES_510R Number of Items: 7 Price: 1p Infomation: 510?
, Resistor: Stock Code: RES_5K1 Number of Items: 337 Price: 1p Infomation: 5100?
, Resistor: Stock Code: RES_51K Number of Items: 457 Price: 1p Infomation: 51000?
, Resistor: Stock Code: RES_510K Number of Items: 287 Price: 1p Infomation: 510000?
, Resistor: Stock Code: RES_5M1 Number of Items: 753 Price: 1p Infomation: 5.1e+06?
, Resistor: Stock Code: RES_51M Number of Items: 383 Price: 1p Infomation: 5.1e+07?
, Resistor: Stock Code: RES_5R6 Number of Items: 945 Price: 1p Infomation: 5.6?
, Resistor: Stock Code: RES_56R Number of Items: 909 Price: 1p Infomation: 56?
, Resistor: Stock Code: RES_560R Number of Items: 209 Price: 1p Infomation: 560?
, Resistor: Stock Code: RES_5K6 Number of Items: 758 Price: 1p Infomation: 5600?
, Resistor: Stock Code: RES_56K Number of Items: 221 Price: 1p Infomation: 56000?
, Resistor: Stock Code: RES_560K Number of Items: 588 Price: 1p Infomation: 560000?
, Resistor: Stock Code: RES_5M6 Number of Items: 422 Price: 1p Infomation: 5.6e+06?
, Resistor: Stock Code: RES_56M Number of Items: 946 Price: 1p Infomation: 5.6e+07?
, Resistor: Stock Code: RES_6R2 Number of Items: 506 Price: 1p Infomation: 6.2?
, Resistor: Stock Code: RES_62R Number of Items: 30 Price: 1p Infomation: 62?
, Resistor: Stock Code: RES_620R Number of Items: 413 Price: 1p Infomation: 620?
, Resistor: Stock Code: RES_6K2 Number of Items: 168 Price: 1p Infomation: 6200?
, Resistor: Stock Code: RES_62K Number of Items: 900 Price: 1p Infomation: 62000?
, Resistor: Stock Code: RES_620K Number of Items: 591 Price: 1p Infomation: 620000?
, Resistor: Stock Code: RES_6M2 Number of Items: 762 Price: 1p Infomation: 6.2e+06?
, Resistor: Stock Code: RES_62M Number of Items: 655 Price: 1p Infomation: 6.2e+07?
, Resistor: Stock Code: RES_6R8 Number of Items: 410 Price: 1p Infomation: 6.8?
, Resistor: Stock Code: RES_68R Number of Items: 359 Price: 1p Infomation: 68?
, Resistor: Stock Code: RES_680R Number of Items: 624 Price: 1p Infomation: 680?
, Resistor: Stock Code: RES_6K8 Number of Items: 537 Price: 1p Infomation: 6800?
, Application: Stock Code: RES_68K Number of Items: 548 Price: 1p Infomation: 68000?
, Resistor: Stock Code: RES_680K Number of Items: 483 Price: 1p Infomation: 680000?
, Resistor: Stock Code: RES_6M8 Number of Items: 595 Price: 1p Infomation: 6.8e+06?
, Resistor: Stock Code: RES_68M Number of Items: 41 Price: 1p Infomation: 6.8e+07?
, Resistor: Stock Code: RES_7R5 Number of Items: 602 Price: 1p Infomation: 7.5?
, Resistor: Stock Code: RES_75R Number of Items: 350 Price: 1p Infomation: 75?
, Resistor: Stock Code: RES_750R Number of Items: 291 Price: 1p Infomation: 750?
, Resistor: Stock Code: RES_7K5 Number of Items: 836 Price: 1p Infomation: 7500?
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, Resistor: Stock Code: RES_75K Number of Items: 374 Price: 1p Infomation: 75000?
, Resistor: Stock Code: RES_750K Number of Items: 20 Price: 1p Infomation: 750000?
, Resistor: Stock Code: RES_7M5 Number of Items: 596 Price: 1p Infomation: 7.5e+06?
, Resistor: Stock Code: RES_75M Number of Items: 21 Price: 1p Infomation: 7.5e+07?
, Resistor: Stock Code: RES_8R2 Number of Items: 348 Price: 1p Infomation: 8.2?
, Resistor: Stock Code: RES_82R Number of Items: 199 Price: 1p Infomation: 82?
, Resistor: Stock Code: RES_820R Number of Items: 668 Price: 1p Infomation: 820?
, Resistor: Stock Code: RES_8K2 Number of Items: 484 Price: 1p Infomation: 8200?
, Resistor: Stock Code: RES_82K Number of Items: 281 Price: 1p Infomation: 82000?
, Resistor: Stock Code: RES_820K Number of Items: 734 Price: 1p Infomation: 820000?
, Resistor: Stock Code: RES_8M2 Number of Items: 53 Price: 1p Infomation: 8.2e+06?
, Resistor: Stock Code: RES_82M Number of Items: 999 Price: 1p Infomation: 8.2e+07?
, Resistor: Stock Code: RES_9R1 Number of Items: 418 Price: 1p Infomation: 9.1?
, Resistor: Stock Code: RES_91R Number of Items: 938 Price: 1p Infomation: 91?
, Resistor: Stock Code: RES_910R Number of Items: 900 Price: 1p Infomation: 910?
, Resistor: Stock Code: RES_9K1 Number of Items: 788 Price: 1p Infomation: 9100?
, Resistor: Stock Code: RES_91K Number of Items: 127 Price: 1p Infomation: 91000?
, Resistor: Stock Code: RES_910K Number of Items: 467 Price: 1p Infomation: 910000?
, Resistor: Stock Code: RES_9M1 Number of Items: 728 Price: 1p Infomation: 9.1e+06?
, Resistor: Stock Code: RES_91M Number of Items: 893 Price: 1p Infomation: 9.1e+07?
, Capacitor: Stock Code: CAP_30pF Number of Items: 861 Price: 1p Infomation: 0.03F
, Capacitor: Stock Code: CAP_27pF Number of Items: 892 Price: 2p Infomation: 0.027F
, Capacitor: Stock Code: CAP_24pF Number of Items: 881 Price: 3p Infomation: 0.024F
, Capacitor: Stock Code: CAP_22pF Number of Items: 362 Price: 4p Infomation: 0.022F
, Diode: Stock Code: 1N4001 Number of Items: 208 Price: 4p Infomation: Null
, Capacitor: Stock Code: CAP_20pF Number of Items: 156 Price: 5p Infomation: 0.02F
, Diode: Stock Code: 1N4148 Number of Items: 201 Price: 5p Infomation: Null
, Capacitor: Stock Code: CAP_18pF Number of Items: 38 Price: 6p Infomation: 0.018F
, Diode: Stock Code: 1N4004 Number of Items: 194 Price: 6p Infomation: Null
, Capacitor: Stock Code: CAP_16pF Number of Items: 589 Price: 7p Infomation: 0.016F
, Capacitor: Stock Code: CAP_15pF Number of Items: 448 Price: 8p Infomation: 0.015F
, Capacitor: Stock Code: CAP_13pF Number of Items: 195 Price: 9p Infomation: 0.013F
, Capacitor: Stock Code: CAP_12pF Number of Items: 798 Price: 10p Infomation: 0.012F
, Transistor: Stock Code: BC107 Number of Items: 20 Price: 10p Infomation: NPN
, Capacitor: Stock Code: CAP_11pF Number of Items: 309 Price: 11p Infomation: 0.011F
, Capacitor: Stock Code: CAP_10pF Number of Items: 648 Price: 12p Infomation: 0.01F
, Diode: Stock Code: BY126 Number of Items: 118 Price: 12p Infomation: Null
, Diode: Stock Code: BY127 Number of Items: 45 Price: 12p Infomation: Null
, IC: Stock Code: TL741 Number of Items: 20 Price: 12p Infomation: "op-amp"
, Transistor: Stock Code: BC108 Number of Items: 9 Price: 12p Infomation: NPN
, Capacitor: Stock Code: CAP_300pF Number of Items: 688 Price: 13p Infomation: 0.3F
, Capacitor: Stock Code: CAP_270pF Number of Items: 389 Price: 14p Infomation: 0.27F
, Capacitor: Stock Code: CAP_240pF Number of Items: 998 Price: 15p Infomation: 0.24F
, Capacitor: Stock Code: CAP_220pF Number of Items: 886 Price: 16p Infomation: 0.22F
, Capacitor: Stock Code: CAP_200pF Number of Items: 511 Price: 17p Infomation: 0.2F
, IC: Stock Code: NE555 Number of Items: 8 Price: 17p Infomation: "Timer"
, Capacitor: Stock Code: CAP_180pF Number of Items: 179 Price: 18p Infomation: 0.18F
, Transistor: Stock Code: 2N2369A Number of Items: 37 Price: 18p Infomation: NPN
, Capacitor: Stock Code: CAP_160pF Number of Items: 798 Price: 19p Infomation: 0.16F
, Capacitor: Stock Code: CAP_150pF Number of Items: 200 Price: 20p Infomation: 0.15F
, Capacitor: Stock Code: CAP_130pF Number of Items: 485 Price: 21p Infomation: 0.13F
, Capacitor: Stock Code: CAP_120pF Number of Items: 303 Price: 22p Infomation: 0.12F
, Capacitor: Stock Code: CAP_110pF Number of Items: 616 Price: 23p Infomation: 0.11F
, Capacitor: Stock Code: CAP_100pF Number of Items: 483 Price: 24p Infomation: 0.1F
, Capacitor: Stock Code: CAP_3000pf Number of Items: 401 Price: 25p Infomation: 3F
, Capacitor: Stock Code: CAP_2700pf Number of Items: 75 Price: 26p Infomation: 2.7F
, Capacitor: Stock Code: CAP_2400pf Number of Items: 322 Price: 27p Infomation: 2.4F
, Capacitor: Stock Code: CAP_2200pf Number of Items: 875 Price: 28p Infomation: 2.2F
, Capacitor: Stock Code: CAP_2000pf Number of Items: 202 Price: 29p Infomation: 2F
, Capacitor: Stock Code: CAP_1800pf Number of Items: 190 Price: 30p Infomation: 1.8F
, Capacitor: Stock Code: CAP_1600pf Number of Items: 9 Price: 31p Infomation: 1.6F
, Capacitor: Stock Code: CAP_1500pf Number of Items: 458 Price: 32p Infomation: 1.5F
, Capacitor: Stock Code: CAP_1300pf Number of Items: 93 Price: 33p Infomation: 1.3F

, Capacitor: Stock Code: CAP_1200pf Number of Items: 224 Price: 34p Infomation: 1.2F
, Capacitor: Stock Code: CAP_1100pf Number of Items: 935 Price: 35p Infomation: 1.1F
, Transistor: Stock Code: AC125 Number of Items: 13 Price: 35p Infomation: PNP
, Capacitor: Stock Code: CAP_1000pf Number of Items: 807 Price: 36p Infomation: 1F
, Capacitor: Stock Code: CAP_30nF Number of Items: 789 Price: 37p Infomation: 30F
, Transistor: Stock Code: AC126 Number of Items: 40 Price: 37p Infomation: PNP
, Capacitor: Stock Code: CAP_27nF Number of Items: 712 Price: 38p Infomation: 27F
, Capacitor: Stock Code: CAP_24nF Number of Items: 651 Price: 39p Infomation: 24F
, Capacitor: Stock Code: CAP_22nF Number of Items: 433 Price: 40p Infomation: 22F
, Capacitor: Stock Code: CAP_20nF Number of Items: 634 Price: 41p Infomation: 20F
, Capacitor: Stock Code: CAP_18nF Number of Items: 657 Price: 42p Infomation: 18F
, Capacitor: Stock Code: CAP_16nF Number of Items: 157 Price: 43p Infomation: 16F
, Capacitor: Stock Code: CAP_15nF Number of Items: 618 Price: 44p Infomation: 15F
, Capacitor: Stock Code: CAP_13nF Number of Items: 343 Price: 45p Infomation: 13F
, IC: Stock Code: LF356 Number of Items: 1 Price: 45p Infomation: "JFET op-amp"
, Capacitor: Stock Code: CAP_12nF Number of Items: 8 Price: 46p Infomation: 12F
, Capacitor: Stock Code: CAP_11nF Number of Items: 451 Price: 47p Infomation: 11F
, Capacitor: Stock Code: CAP_10nF Number of Items: 421 Price: 48p Infomation: 10F
, Capacitor: Stock Code: CAP_300nF Number of Items: 255 Price: 49p Infomation: 300F
, Capacitor: Stock Code: CAP_270nF Number of Items: 600 Price: 50p Infomation: 270F
, Transistor: Stock Code: TIS88A Number of Items: 42 Price: 50p Infomation: FET
, Transistor: Stock Code: OC44 Number of Items: 57 Price: 50p Infomation: PNP
, Capacitor: Stock Code: CAP_240nF Number of Items: 21 Price: 51p Infomation: 240F
, Capacitor: Stock Code: CAP_220nF Number of Items: 869 Price: 52p Infomation: 220F
, Capacitor: Stock Code: CAP_200nF Number of Items: 272 Price: 53p Infomation: 200F
, Capacitor: Stock Code: CAP_180nF Number of Items: 958 Price: 54p Infomation: 180F
, Capacitor: Stock Code: CAP_160nF Number of Items: 472 Price: 55p Infomation: 160F
, Capacitor: Stock Code: CAP_150nF Number of Items: 580 Price: 56p Infomation: 150F
, Capacitor: Stock Code: CAP_130nF Number of Items: 523 Price: 57p Infomation: 130F
, Capacitor: Stock Code: CAP_120nF Number of Items: 844 Price: 58p Infomation: 120F
, Capacitor: Stock Code: CAP_110nF Number of Items: 600 Price: 59p Infomation: 110F
, Capacitor: Stock Code: CAP_100nF Number of Items: 310 Price: 60p Infomation: 100F
, Capacitor: Stock Code: CAP_3000nF Number of Items: 423 Price: 61p Infomation: 3000F
, Capacitor: Stock Code: CAP_2700nF Number of Items: 510 Price: 62p Infomation: 2700F
, Capacitor: Stock Code: CAP_2400nF Number of Items: 699 Price: 63p Infomation: 2400F
, Capacitor: Stock Code: CAP_2200nF Number of Items: 142 Price: 64p Infomation: 2200F
, Capacitor: Stock Code: CAP_2000nF Number of Items: 55 Price: 65p Infomation: 2000F
, Capacitor: Stock Code: CAP_1800nF Number of Items: 191 Price: 66p Infomation: 1800F
, Capacitor: Stock Code: CAP_1600nF Number of Items: 622 Price: 67p Infomation: 1600F
, Capacitor: Stock Code: CAP_1500nF Number of Items: 796 Price: 68p Infomation: 1500F
, Capacitor: Stock Code: CAP_1300nF Number of Items: 587 Price: 69p Infomation: 1300F
, Capacitor: Stock Code: CAP_1200nF Number of Items: 609 Price: 70p Infomation: 1200F
, Capacitor: Stock Code: CAP_1100nF Number of Items: 249 Price: 71p Infomation: 1100F
, Capacitor: Stock Code: CAP_1000nF Number of Items: 617 Price: 72p Infomation: 1000F
, Capacitor: Stock Code: CAP_30uF Number of Items: 2 Price: 73p Infomation: 30000F
, Capacitor: Stock Code: CAP_27uF Number of Items: 3 Price: 74p Infomation: 27000F
, Capacitor: Stock Code: CAP_24uF Number of Items: 557 Price: 75p Infomation: 24000F
, Capacitor: Stock Code: CAP_22uF Number of Items: 844 Price: 76p Infomation: 22000F
, Capacitor: Stock Code: CAP_20uF Number of Items: 328 Price: 77p Infomation: 20000F
, Capacitor: Stock Code: CAP_18uF Number of Items: 815 Price: 78p Infomation: 18000F
, Capacitor: Stock Code: CAP_16uF Number of Items: 538 Price: 79p Infomation: 16000F
, Capacitor: Stock Code: CAP_15uF Number of Items: 798 Price: 80p Infomation: 15000F
, Capacitor: Stock Code: CAP_13uF Number of Items: 314 Price: 81p Infomation: 13000F
, Capacitor: Stock Code: CAP_12uF Number of Items: 989 Price: 82p Infomation: 12000F
, Capacitor: Stock Code: CAP_11uF Number of Items: 519 Price: 83p Infomation: 11000F
, Capacitor: Stock Code: CAP_10uF Number of Items: 813 Price: 84p Infomation: 10000F
, Capacitor: Stock Code: CAP_300uF Number of Items: 585 Price: 85p Infomation: 300000F
, Capacitor: Stock Code: CAP_270uF Number of Items: 869 Price: 86p Infomation: 270000F
, Capacitor: Stock Code: CAP_240uF Number of Items: 476 Price: 87p Infomation: 240000F
, Capacitor: Stock Code: CAP_220uF Number of Items: 416 Price: 88p Infomation: 220000F
, Capacitor: Stock Code: CAP_200uF Number of Items: 646 Price: 89p Infomation: 200000F
, Capacitor: Stock Code: CAP_180uF Number of Items: 888 Price: 90p Infomation: 180000F
, Capacitor: Stock Code: CAP_160uF Number of Items: 292 Price: 91p Infomation: 160000F

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, Capacitor: Stock Code: CAP_150uF Number of Items: 281 Price: 92p Infomation: 150000F
, Capacitor: Stock Code: CAP_130uF Number of Items: 503 Price: 93p Infomation: 130000F
, Capacitor: Stock Code: CAP_120uF Number of Items: 702 Price: 94p Infomation: 120000F
, Capacitor: Stock Code: CAP_110uF Number of Items: 556 Price: 95p Infomation: 110000F
, Capacitor: Stock Code: CAP_100uF Number of Items: 514 Price: 96p Infomation: 100000F
, IC: Stock Code: Z80A Number of Items: 0 Price: 800p Infomation: "CPU"
]

The largest number of components  RES_82M

Total Resistance: 5.799552867886E11 ?

There are: 66 NPN transistors

Items above 10p: 98
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Messages to STDERR

None.