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W1L1-HOMEWORK-ASSIGNMENT

Tuesday, September 3 2019

Question #1 Solution

Source Code

```
package fppassignment;

public class Prog1 {

    public static void main(String[] args) {
        //get a random number x in the range 1 .. 9 and compute  $\pi$  the
power of x
        int x=RandomNumbers.getRandomInt(1, 9);
        System.out.println("The result of  $\pi$  the power of "+ x +" is "+
Math.pow(Math.PI, x));

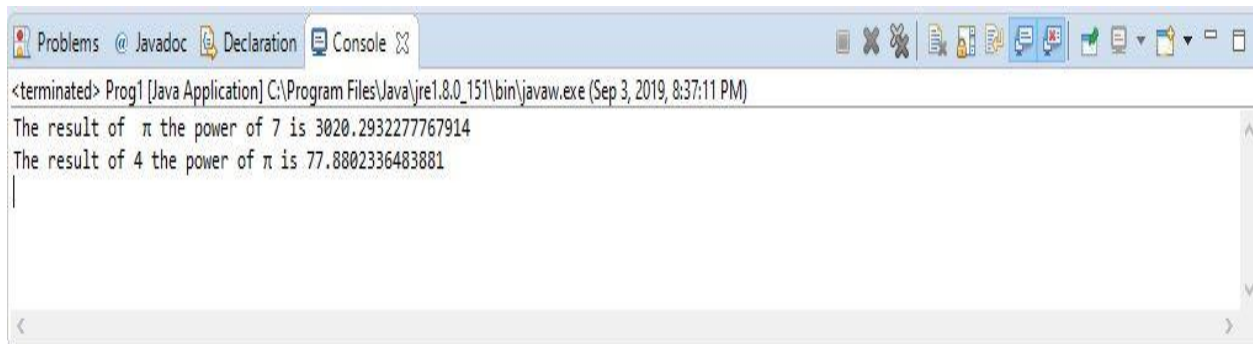
        //get a random number y in the range 3 .. 14 and compute y the power
of  $\pi$ 

        int y=RandomNumbers.getRandomInt(3, 14);
        System.out.println("The result of "+ y +" the power of  $\pi$  is "+
Math.pow(y, Math.PI));

    }

}
```

OutPut

A screenshot of a Java IDE's console window. The window has a title bar with tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is active. The text in the console reads: '<terminated> Prog1 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 8:37:11 PM)' followed by two lines of output: 'The result of π the power of 7 is 3020.293227767914' and 'The result of 4 the power of π is 77.8802336483881'. The console has a scrollbar on the right side.

```
<terminated> Prog1 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 8:37:11 PM)
The result of  $\pi$  the power of 7 is 3020.293227767914
The result of 4 the power of  $\pi$  is 77.8802336483881
```

Question #2 Solution

Source Code

```
package fppassignment;

public class Prog2 {

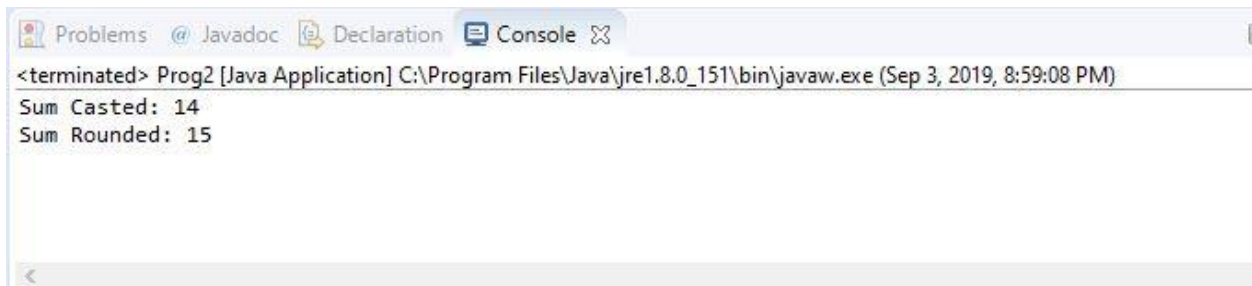
    public static void main(String[] args) {
        float a= 1.27f;
        float b=3.881f;
        float c=9.6f;
        float sum =a+b+c;
        //the sum of the floats as an integer, obtained by casting the
sum to type int
        int sumCasting = (int)sum;
        //the sum of the floats as an integer, obtained by rounding the
sum to the nearest integer,
        //using the Math.round function
        int sumRounding = (int)Math.round(sum);

        System.out.println("Sum Casted: " + sumCasting);
        System.out.println("Sum Rounded: " + sumRounding);

    }

}
```

OutPut

A screenshot of a Java IDE's console window. The window has tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is active, showing the output of the program. The text in the console is: '<terminated> Prog2 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 8:59:08 PM)' followed by 'Sum Casted: 14' and 'Sum Rounded: 15'. There is a scrollbar on the right side of the console window.

```
<terminated> Prog2 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 8:59:08 PM)
Sum Casted: 14
Sum Rounded: 15
```

Question #3 Solution

Solution

```
package fppassignment;

public class Prog3 {
    public static void main(String[] args){

        //column names: productId, name,numInStock,provider,pricePerUnit
        String records = "231A,Light Bulb,123,Wilco,1.75:"+
            "113D,Hairbrush,19,Aamco,3.75:"+

            "521W,Shampoo,24,Acme,6.95:"+
            "440Q,Dishwashing Detergent,20,Wilco,1.75:"+

            "009G,Toothbrush,77,Wilco,0.85:"+

            "336C,Comb,34,Wilco,0.99:"+
            "523E,Paper Pad Set,109,Congdon and Chrome,2.45:"+
            "888A,Fake Diamond Ring,111,AmericusDiamond,3.95:"+
            "176A,Romance Novel 1,20,Barnes and Noble,3.50:"+
            "176B,Romance Novel 2,20,Barnes and Noble,3.50:"+
            "176C,Romance Novel 3,20,Barnes and Noble,3.50:"+

            "500D,Floss,44,Wilco,1.25:"+

            "135B,Ant Farm,5,Wilco,8.00:"+

            "211Q,Bicycle,9,Schwinn,75.95:"+

            "932V,Pen Set,50,Congdon and Chrome,9.95:"+
            "678Q,Pencil 50,123,Congdon and Chrome,9.95:"+
            "239A,Colored Pencils,25,Congdon and Chrome,4.75:"+
            "975B,Shower Curtain,25,Wilco,6.50:"+
            "870K,Dog Bowl,15,Wilco,4.75:"+
            "231S,Cat Bowl,15,Wilco,4.75:"+
            "562M,Kitty Litter,15,Wilco,3.25:"+
            "777X,Dog Bone,15,Wilco,4.15:"+
            "933W,Cat Toy,15,Wilco,2.35:"+
            "215A,Hair Ball,0,Little Jimmy,0.00: ";

        //separate into individual records by the Delimiter :
        String[] splitedRecords = records.split(":");

        //for each record,first split by the delimiter comma and get the
        productId and print it.
        String nextRecordStr = null;
        String[] nextRecordArray = null;
        for(int i = 0; i < splitedRecords.length; ++i){
            nextRecordStr = splitedRecords[i];
            nextRecordArray = nextRecordStr.split(",");
            System.out.println(nextRecordArray[0]);
        }
    }
}
```

```
    }  
}
```

OutPut



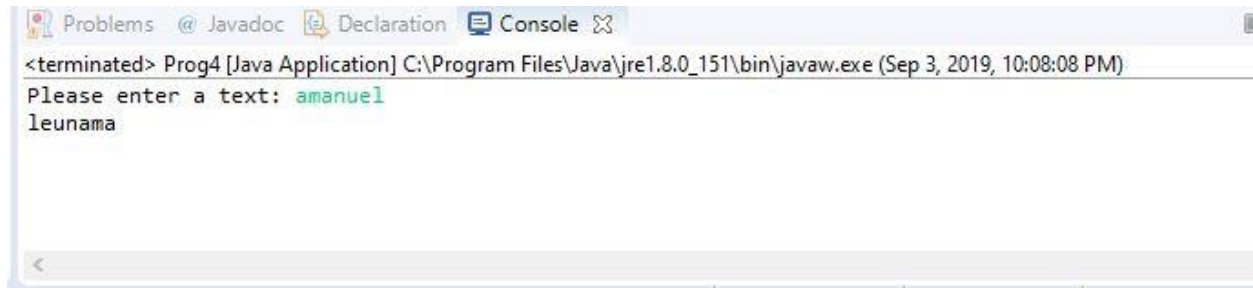
```
<terminated> Prog3 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 9:48:06 PM)  
231A  
113D  
521W  
440Q  
009G  
336C  
523E  
888A  
176A  
176B  
176C  
500D  
135B  
211Q  
932V  
678Q  
239A  
975B  
870K  
231S  
562M  
777X  
933W  
215A
```

Question #4 Solution

Source Code

```
package fppassignment;  
  
import java.util.Scanner;  
  
public class Prog4 {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.print("Please enter a text: ");  
        String input = sc.nextLine();  
  
        for(int i = input.length()-1; i >= 0; --i){  
            System.out.print(input.charAt(i));  
        }  
    }  
}
```

Output



Question #5 Solution

Source Code

```
package fppassignment;

public class Prog5 {
    public static void main(String[] args){

        //populate a 4x4 matrix with random ints in the range 1..99
        int[][] rand = new int[4][4];
        for(int row = 0; row < 4; ++row){
            for(int col = 0; col<4; ++col){
                rand[row][col] = RandomNumbers.getRandomInt(1,99);
            }
        }
        //create addition problems by using format method from java.lang.String
        String output = "";
        String nineNewlines = "%n%n%n%n%n%n%n%n%n";
        String equalsBar = "____";
        //row 1
        output = String.format("%16d %12d %12d %12d %n %n",
                                rand[0][0], rand[0][1], rand[0][2], rand[0][3]);

        output += String.format("%13s %2d %9s %2d %9s %2d %9s %2d %n", "+",
                                rand[1][0], "+", rand[1][1], "+",
rand[1][2], "+", rand[1][3]);

        output += String.format("%16s %12s %12s %12s"+nineNewlines,equalsBar,
equalsBar,equalsBar,equalsBar);

        //row 2
        output += String.format("%16d %12d %12d %12d %n %n",
                                rand[2][0], rand[2][1], rand[2][2], rand[2][3]);

        output += String.format("%13s %2d %9s %2d %9s %2d %9s %2d %n", "+",
                                rand[3][0], "+", rand[3][1], "+",
rand[3][2], "+", rand[3][3]);
        output += String.format("%16s %12s %12s %12s",equalsBar,
equalsBar,equalsBar,equalsBar);
```

```

        System.out.println(output);
    }
}

```

Output

```

:terminated> Prog5 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 11:02:16 PM)

      81      24      64      73
    +  6    + 55    + 66    + 73
    ----    ----    ----    ----
     87     79    130    146

      36      38      56      69
    + 81    + 21    + 77    + 63
    ----    ----    ----    ----
    117     59    133    132

```

Question #6 Solution**Source Code**

```

package fppassignment;

import java.util.Arrays;

public class Prog6 {
    public static String[] removeDups(String[] arr) {
        if(arr==null || arr.length == 0 || arr.length == 1){
            return arr;
        }
        else {
            int len = arr.length;
            StringBuilder distinctArray = new StringBuilder(arr[0]);
            for(int i = 1; i < len; ++i) {
                boolean flag = false;
                for(int j = 0; j < i; ++j) {
                    if(arr[j].equals(arr[i])) {
                        flag = true;
                        break;
                    }
                }
                if(!flag) {
                    distinctArray.append(", " + arr[i]);
                }
            }
        }
    }
}

```

```

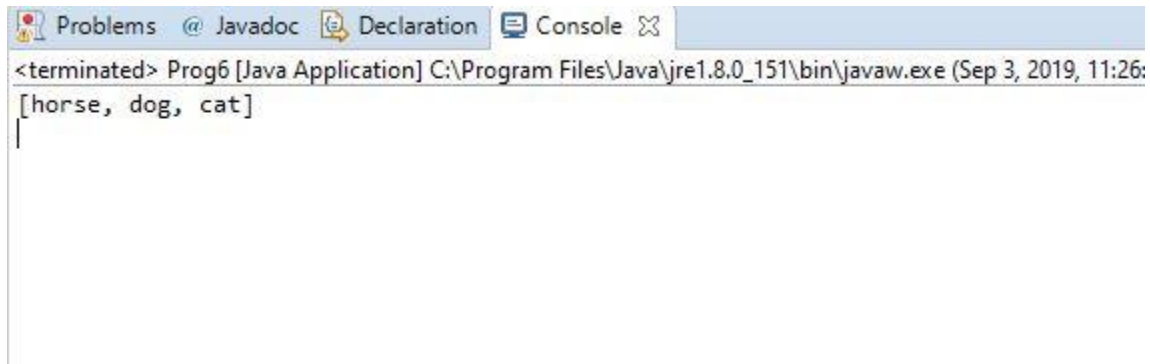
        String[] noDupsArray = distinctArray.toString().split(",");
        return noDupsArray;
    }

}

public static void main(String[] args) {
    String[] arr = {"horse", "dog", "cat", "horse", "dog"};
    String[] result = removeDups(arr);
    System.out.println(Arrays.toString(result));
}
}

```

Output



Question #7 Solution

Source Code

```

package fppassignment;

public class Prog7 {

    public static void main(String[] args) {
        if(args.length!=0) {
            int count = 0;
            for (int i = 0; i < args.length; ++i) {
                System.out.println("Length of index " + i + " " + args[i] + " = "
                    + args[i].length());
                //its a case sensitive
                if (args[i].startsWith("A")) {
                    count++;
                }
            }
            System.out.println("\nTotal starts with in spell A is = "+
count);
        }
    }
}

```

```

    }else {
        System.out.println("Please provide input First from command
prompt");
    }

}

}

```

Output

```

<terminated> Prog7 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 3, 2019, 11:46:32 PM)
Length of index 0 Amanuel = 7
Length of index 1 Isack = 5
Length of index 2 Gebreendrias = 12

Total starts with in spell A is = 1

```

Question #8 Solution

Source Code

```

package fppassignment;

public class Prog8 {

    public static void main(String[] args) {
        int[] arr = { 2, -21, 3, 45, 0, 12, 18, 6, 3, 1, 0, 22};
        int minSoFar;
        if(arr.length!=0 || arr!=null) {
            minSoFar = arr[0];
            int len = arr.length;
            for(int i = 1; i < len; ++i){
                if(arr[i]< minSoFar){
                    minSoFar = arr[i];
                }
            }
            System.out.println("The minimum value in [2, -21, 3, 45, 0, 12,
18, 6, 3, 1, 0, 22] is:" );
            System.out.println(""+ minSoFar);
        }

    }

}

```

Output



The screenshot shows a console window with a tab labeled 'Console'. The text in the console is as follows:

```
<terminated> Prog8 [Java Application] C:\Program Files\Java\jre1.8.0_151\bin\javaw.exe (Sep 4, 2019, 12:04:47 AM)
The minimum value in [2, -21, 3, 45, 0, 12, 18, 6, 3, 1, 0, 22] is:
-21
```