Determine the Maximal, Minimal and Average in an integer array

Description

- For a series of given integers ending with 0, write a program
  - It can determine the maximal and minimal among positive and negative numbers, and their averages respectively.
  - Also print these non-unique positive numbers in the integer arrayin ascending order.
- Note:
  - Zero should be seen as input termination symbol and should not be counted for maximum, minimum, and average of the integers
  - Zero appears only once in the input
  - **It prints the average in a format with one digit after the decimal point**
  - You have to use a function**read_input()**
    - It can accept an integer array and return the number of non-zero integers
    - Please ignoring 0
  - Please following the Template to finish your code

Input

- Input integers: v
- Constraints:
  - -2147483648<= v <= 2147483647
  - 1 <= number of input integers <=10000

Output

- Print the max, min, and avg of both positive and negative numbers, also print these non-unique positive numbers in an integer arrayin as cending order
- **Avg should be in a format with one digit after the decimal point**
- If input contains nothing but zero
  - You should output zero for number of integers, min, max and avg
  - **Avg should be in a format with one digits after the decimal point**
- If there is no Non-unique positive numbers, print**NULL**

Sample Input 1

```
2 14 15 -6 90 -5 2 -40 15 0
```

Sample Output 1

```
pos max: 90             min: 2
neg max: -5             min: -40
Avg pos: 23.0           neg: -17.0
Non-unique positive numbers: 2 15
```

Sample Input 2

```
0
```

Sample Output 2

```
pos max: 0              min: 0
neg max: 0              min: 0
Avg pos: 0.0            neg: 0.0
Non-unique positive numbers: NULL
```

Sample Input 3

```
2147483646 2147483647 -2147483647 -2147483648 0
```

Sample Output 3

```
pos max: 2147483647     min: 2147483646
neg max: -2147483647    min: -2147483648
Avg pos: 2147483646.5   neg: -2147483647.5
Non-unique positive numbers: NULL
```

Hint

- Prevent your program from overflow
  - You may need to uselong longordouble
  - DO NOT USElong double
- The output format will utilize left alignment, following is the sample format:

```
int num1, num2;
double num3,num4;
printf("pos max: %-13d min: %-13d\n",num1,num2);
printf("neg max: %-13d min: %-13d\n",num1,num2);
printf("Avg pos: %-13.1lf neg: %-13.1lf\n",num3,num4);
```

- Template

```
# include <stdio.h>
# include <stdlib.h>


int* read_input(/*TODO*/){
    //TODO
}

int main(){
    int *n_arr;
    n_arr = read_input(/*TODO*/);

    int pos_max,pos_min;
    int neg_max,neg_min;
    int pos_num,neg_num;
    long long pos_sum, neg_sum;
    double pos_avg=0.0, neg_avg=0.0;

    //TODO

    pos_avg = (double) pos_sum / (double) pos_num;
    neg_avg = (double) neg_sum / (double) neg_num;

    //TODO

    return 0;
}
```

Problems

Announcements

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Information

ID	mid_04
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	cherryping
Level	Low
Score	98
Tags	Show

Statistic Details