Programing Languages 1
Sample test

2014. spring

I accept the rules and regulations of the university. At the beginning of the semester I was informed about the criteria to pass (provided in written form on the homepage of the class).
Without signature this exam can not be graded, and counted in to the final grade.

_____
signature

1. Write a C program that reads in an integer number from the keyboard.
   (IN THIS PROGRAM YOU MUST NOT USE THE "IF" STATEMENT)
   - If the number is less than 1 or greater then 24 exit. (2p).
   - If the number is between 7 and 12 print to the screen: "morning".(1p)
   - If the number is between 13 and 17 print to the screen: "afternoon".(1p)
   - If the number is between 18 and 20 print to the screen: "evening". (1p)
   - In the rest of the cases print out: "night or dawn".(1p)

   Example run:
   ```
   Give a number please... 4
   night or dawn
   ```

2. Write a C program that reads in integer numbers from the keyboard until 0. (2p) After the user enters 0 make the program print out how many of the numbers were odd, and how many were even (4p). The program has to contain a logical function that decides whether a number given as parameter is odd or even (2p).

   Example run:
   ```
   Give a number please... 2
   Give a number please... 7
   Give a number please... 5
   Give a number please... 8
   Give a number please... 9
   Give a number please... 0
   Odd numbers: 3
   Even numbers: 2
   ```

3. Write a C program, that reads 30 integer numbers (2p) and prints the sum (1p) and the average (1p) of them to the screen.

   Example run:
   ```
   The 1. number: 5
   The 2. number: 91
                  ...
   The 30. number: 13
   Sum: 1324
   Average: 44.1333
   ```

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4. Create a C program, that reads in 20 integer numbers and after, it prints them back to the screen in reverse order (2p). Put every number to a new line (1p). Before the first and after the last number print out 10 '+' signs (1p).

Example run:

```
Give a number please... 5
Give a number please... 9
          ...
Give a number please... 32
Give a number please... 4
Give a number please... 76
++++++++++
76
4
32
. . .
9
5
++++++++++
```

5. Create a C program, reads a string from the keyboard (2p). The string only contains letters of the English alphabet. Print out the lowercase letters of the string in reversed order (3p). The program has to contain a function that decides whether a letter is lowercase or uppercase. (3p) The size of the string is 99 characters at max.

Example run 1:

```
Give a string please... aAbBcCdD
Output: dcba
```

Example run 2:

```
Give a string please... ApPlE
Output: lp
```