**Homework Assignment #1**

# Due Date: 8:00am, October 5, 2016 (Wednesday)

The purpose of the assignment is to give you practice in using arrays, structs and functions to solve real life simple problems.

# Assignment Description

A city flower shop “Million Roses” collected all of its monthly sales information in a single file called flower\_sales.txt. Now the owner of the shop wants to analyze all its sales during one month. He asked a programmer to write him a code, which will automate analytical process, and outputs reports to the console.

In the sales file, each line has the following format:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **sale\_id** | **mm.dd.yyyy** | **qty** | **type** | **arrangement** | **total\_cost** | **payment** | **delivery** | **courier** |

For example, the file might have the following first four data entries:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **sale\_id** | **mm.dd.yyyy** | **qty** | **type** | **arrangement** | **total\_cost** | **payment** | **delivery** | **courier** |
| 1542 | 01.06.2016 | 7 | flower | freedum\_90sm | 7000 | cash | 1000 | maqsat |
| 1543 | 01.06.2016 | 51 | flower | fredum\_60sm | 835700 | credit | 0 | pickup |
| 1544 | 01.06.2016 | 1 | bouquet | JFY\_mondial | 35000 | cash | 0 | pickup |
| 1545 | 01.06.2016 | 1 | bouquet | meison\_pink | 51000 | paypal | 1500 | maqsat |
| 1545 | 02.06.2016 | 2 | gift | BDay Cake | 4000 | cash | 0 | pickup |

Your job is to write a program which will give an analysis for a day of the month entered in by the user. You can find the database file in a course web page. To download it, right click on it and choose “Save As” from a menu.

The program should do the following:

1. Read in the input data from the file, and store it in an array of struct elements. You will have to define an appropriate struct to hold the given data. You may assume the file does not contain more than 200 entries.
2. Ask the user to input the day in the form of an integer (1-31). If the number entered is outside of the range, the program should end.
3. For that given day, show the following:
   1. How many orders were placed
   2. How many individual flowers were purchased (add the quantities)
   3. How many bouquets were purchased (number of bouquets in the type column)
   4. How many gifts were purchased, and list them
   5. The total cost of the orders for the given day
   6. Show the total costs broken down by payment type (cash, epay\_kazkom, paypal, e.g.)
      1. Cash: 95000
      2. Epay\_kazkom: 45000
      3. qiwi: 0
      4. PayPal: 12000
   7. How many deliveries were made, and how much was spent on deliveries in total for that day
   8. Which courier made the most deliveries that day, and print the number of deliveries
4. When the above data has been output, go back to step 2 to ask the user to enter another day.

To test your program, whether it gives you a correct answer, check yourself using Microsoft Excel. Copy the database into excel, and using filter tool compare programs’ answer with Excel.

# Submission instructions

Submit ONLY your .c file before the specified deadline. Your .c file name should consist of your last name and First name (for example: SauleAnay.c). If you submit after the deadline, for each day lateness you will be subtracted 10 points.

Your code will be tested for plagiarism detection. In case of identical codes, you will be given 0 points, without any recap.

Plagiarism Detection system is clever enough. So, if you copy someones’ code and change variable names, add extra spaces and empty lines, you code anyway will be detected as identical.

If your code will be very similar to other students’ work, you will be invited for live-grading. During live-grading, you have to prove, that you understand every statement of your code and to ensure that code had been written by you.

# Marking

These are the aspects of your work on which we will focus in the marking:

* **Correctness:** All of the requirements have been met. Correctness will count for the largest single portion of your marks. (80/100 points)
* **Style:** Your code should be clear and properly presented, with proper indentation and comments. (20/100 points)