Your Turn!

Warm up - Task 1

Task/Requirement: Write a program which adds, subtracts, multiplies and divides two variables

pseudocode

Flowchart

Warm up - Task 2

Task/Requirement: Write a program which finds the Factorial of a number

pseudocode

Flowchart

Factorial is the product of all positive integers less than or equal to n.
Example:

5! = 5 x 4 x 3 x 2 x 1

5! = 120

Warm up - Task 3

Task/Requirement: Write a program which finds the largest and smallest number in an array

pseudocode

Flowchart

Warm up - Task 4

Task/Requirement: Write a program which sorts an array in ascending and descending order

pseudocode

Flowchart

Warm up - Task 5

Task/Requirement: Write a program that computes the net amount of a bank account based on a transaction log from console input. The transaction log format is shown as following:

```
# D 300
# D 300
# D 100
# W 200
```

pseudocode

Flowchart

Warm up - Task 6

Find all numbers between 2000 and 3200, which are divisible by 7 but are not a multiple of 5

pseudocode

Flowchart

Warm up - Task 7

Task/Requirement: A robot moves in a plane starting from the original point (0,0). The robot can move toward UP, DOWN, LEFT and RIGHT with a given steps. The trace of robot movement is shown as the following: UP 5 DOWN 3 LEFT 3 RIGHT 2. The numbers after the direction are steps. Write a program to compute the distance from current position after a sequence of movement and original point. If the distance is a float, then just print the nearest integer.

pseudocode

Flowchart

Warm up - Task 8

Task/Requirement:
Files are backed up with the following name format every day: yearmonthday_backup_appname.xyz,
e.g. day1: 20190101_backup_prtg.zip
day2: 20190102_backup_prtg.zip
write a program which creates a string with the filename for all the days in all the months in a year

pseudocode

Flowchart

Warm up - Task 9

Task/Requirement: You have two variable; a = 5 and b = 3, Swap the integers such that a = 3 and b = 5, without creating additional variables

pseudocode

Flowchart

Warm up - Task 10

Task/Requirement: A website requires the users to input username and password to register. Write a program to check the validity of password input by users. Following are the criteria for checking the password:

pseudocode

1. At least 1 letter between [a-z]

2. At least 1 number between [0-9]

1. At least 1 letter between [A-Z]

3. At least 1 character from [$#@]

4. Minimum length of transaction password: 6

5. Maximum length of transaction password: 12

Flowchart