
# list exercise

## 1) Create a programme that determines whether a positive integer is perfect or not. Your program will accept a number as input.

- Note:-An integer, n, is said to be perfect when the sum of all of the proper divisors of n is equal to n. For example, 28 is a perfect number because its proper divisors are 1, 2, 4, 7 and 14, and 1 + 2 + 4 + 7 + 14 = 28.
- **Input:**

```
number = 28
```

- **Output:**

```
28 is a perfect number
```

## 2. Create a programme that print perfect number between a given range

## 3) Write a program that reads numbers from the user. Your program should display the average of all of the values entered by the user. Then the program should display all of the below average values, followed by all of the average values (if any), followed by all of the above average values. An appropriate label should be displayed before each list of values

- **Input:**

```
How many numbers do you want to enter? : 7

Enter 1 number: 11

Enter 2 number: 12

Enter 3 number: 13

Enter 4 number: 14

Enter 5 number: 15

Enter 6 number: 16

Enter 7 number: 17
```

- **Output:**

```
Average is 14.0

List of values that are above average: [15.0, 16.0, 17.0]

List of values that are equal to average: [14.0]

List of values that are below average: [11.0, 12.0, 13.0]
```

## 4) Write a program that will generate all sublists of a given list

- A sublist is a list that makes up part of a larger list. A sublist may be a list containing a single element, multiple elements, or even no elements at all. For example, [1], [2], [3] and [4] are all sublists of [1, 2, 3, 4]. The list [2, 3] is also a sublist of [1, 2, 3, 4], but [2, 4] is not a sublist [1, 2, 3, 4] because the elements 2 and 4 are not adjacent in the longer list. The empty list is a sublist of any list. As a result, [] is a sublist of [1, 2, 3, 4]. A list is a sublist of itself, meaning that [1, 2, 3, 4] is also a sublist of [1, 2, 3, 4]
- Note that your program will always return a list containing at least the empty list because the empty list is a sublist of every list
- **Input:**

```
l = [1,2,3,4]
```

- **Output:**

```
[[], [1], [1, 2], [1, 2, 3], [1, 2, 3, 4], [2], [2, 3], [2, 3, 4], [3], [3, 4], [4]]
```

## 5) Create a program that reads integers from the user . Once all of the integers have been read your program should display all of the negative numbers, followed by all of the zeros, followed by all of the positive numbers in sorted order in a list.

- **Input:**

```
How many number do want to store in a list: 5

Enter 1 a number: 55

Enter 2 a number: -2

Enter 3 a number: 0

Enter 4 a number: 4

Enter 5 a number: 1
```

- **Output:**

```
[-2, -1, 1, 3, 55]
```

# Great Job!