

## Assignment number 2 (intro to programming):

1. Write function `pow()` that calculates the power, which takes base and exponent as arguments.
2. Write function `area()` that calculates the area of the shape.
3. Write a program to find the sum of all numbers in a list.
4. Write a program to concatenate two tuples then get the max and min element.
5. Write a function that takes tuple as argument and if length of tuple greater than 5, return the count of number elements. Note that the tuple may be with different data types.
6. Write a function which will be able to print a index of list element without using index function.
7. Write a Python function that takes a number as a parameter and checks whether the number is prime or not.
8. Write a Python class `Restaurant` with attributes like `menu_items`, `book_table`, and `customer_orders`, and methods like `add_item_to_menu`, `book_tables`, and `customer_order`. (Note: Use dictionaries and lists to store the data.)

Perform the following tasks now:

- Now add items to the menu.
  - Make table reservations.
  - Take customer orders.
  - Print the menu.
  - Print table reservations.
  - Print customer orders.
9. A Bike Rental System Let us start writing the class `Customer` that is composed of the following attributes:
    - `name`
    - `age`

Here are some of the methods that you need to add to your class `Customer`;

- `def __init__(self).`
- Getter / setter for all attributes.

class `MainBikeRental` that is composed of the following attributes:

- List of bikes
- List of Rentals

Here are some of the methods that you need to add to your class `MainBikeRental`;

- `def __init__(self).`
- Getter / setter for all attributes.

- requestBike: Takes a request from the customer for the number of bikes and check if the requested number is available or not if yes, function will deduct number\_of\_bikes from shop stock else it will print wait 10 mins. And you have to make sure that the age of the customer is over than 6 years.
- returnBike: Allows customers to return their bikes to the rental shop by taking rentalTime, num\_of\_bikes as parameters. And calculate the total bill cost by multiplying rentalTime \* 40. Also, add the returned bikes to the stock store again
- addBike: adds bikes into the list
- totalCost: returns the total cost of bikes in the store

class Bike that is composed of the following attributes:

- name
- price

Here are some of the methods that you need to add to your class Bike;

- def \_\_init\_\_(self).
- Getter / setter for all attributes.