

## Python Development Internship Task

This task forms an important part of your selection process and will take you one step closer to this internship.

**On being selected, this internship will provide you the opportunity to:**

1. Learn and explore the ins and outs of multiple industries.
2. Work on real-world projects.
3. Build a corporate profile on LinkedIn and an industry-standard resume, and get direct references to MNCs.

**TASK-1:** Given the **Department** and **Company** tables. Write a python code to query the **sum of the Employees** of all Department where the **Country** is 'India'.

Suppose you have a database "Company\_details". Assume hostname = "hostname", username = "abed", and password = "password".

**Note:** Department.Company\_code and Company.Code are matching key columns.

**Department**

ID	NAME	COMPANY_CODE	TOTAL_EMPLOYEES
1	Engineering & Technology	A101	100
2	Sales, Service & Support	B102	110
3	Marketing & Communications	C103	120
4	Business Strategy	D104	130
5	Marketing & Communications	E105	140

**Company**

CODE	NAME	COUNTRY	TOTAL_EMPLOYEES
A101	GOOGLE	India	500
B102	MICROSOFT	Australia	1000
C103	GOOGLE	India	250
D104	MICROSOFT	Australia	600
E105	KPMG	Netherlands	100

**TASK-2:** Write a Python Program to Access the Parent Class attributes (instance variable) in the Child Class.

1. Parent Class Name-Vehicle

Instance Variable-The constructor for Vehicle must take three arguments: Color, Price, Maximum\_Speed

2. Child Class Name-Car

Instance Variable- The constructor for Car must take a single argument: Number of Tires

Instance Method-Prints a string based on the arguments of parent class and child class. The output would be:

A red-colored car with a maximum speed of **200** km/h is priced at **500000** with **4** tires

3. The constructor of a both classes are invoked when we create an object of the class Car.

4. The variables defined within constructor are called as the instance variables. Hence, Color, Price, Max\_Speed are the instance variables of the class Vehicle. Similarly, Number of Tires are the instance variable of the class Car. Since the class Car inherits from class Vehicle, you have to initialize both class instance variable.

5. Call an instance method of the class Car using its object.

**TASK-3:** Write a function to change the datetime format to format='%d%b%Y' in pandas DataFrame.

Input-        Dates= {'dates': ['05Sep2009','13Sep2011','21Sep2010']}

Output-        { 'dates': [2019-09-02, 2019-09-13, 2019-09-21]}

**Additional pointers:**

1. Write object-oriented code. Consider making a wrapper object with an elaborate name, and write functions for all operations inside this object. Maintain good naming conventions throughout.
2. .py/.ipynb files accepted. If sending Python Notebook's, send a clean notebook with only the wrapper object and functions.
3. Make your code generic (using proper function parameters). Your code will be tested against a similar hidden dataset.
4. Write proper comments for each line of code.

**You are required to submit this task within 24 hours after receiving it.**