In [1]:

```python
#Q1 Create a class Date with instance variables Day, Month, and Year. Accept the values from user and initializ
#instance variable through the constructors. Overload the binary '-'minus operator to find the difference betwe
#Date class objects. Create Python program to accept current date and birth date from user and find the current
class Date:
    def __init__(self, day, month, year):
        self.day = day
        self.month = month
        self.year = year

    def __sub__(self, other):
        return (self.year - other.year) * 365 + (self.month - other.month) * 30 + (self.day - other.day)

current_day = int(input("Enter current day: "))
current_month = int(input("Enter current month: "))
current_year = int(input("Enter current year: "))
birth_day = int(input("Enter birth day: "))
birth_month = int(input("Enter birth month: "))
birth_year = int(input("Enter birth year: "))

current_date = Date(current_day, current_month, current_year)
birth_date = Date(birth_day, birth_month, birth_year)

age_in_days = current_date - birth_date
years = age_in_days // 365
months = (age_in_days % 365) // 30
days = (age_in_days % 365) % 30

print(f"Your current age is {years} years, {months} months, and {days} days.")
```

```
Enter current day: 22
Enter current month: 09
Enter current year: 2024
Enter birth day: 16
Enter birth month: 12
Enter birth year: 2002
Your current age is 21 years, 9 months, and 11 days.
```

In [3]:

```
#Q2 Create a class Vehicle with instance variable Vehicle Model, Registration number, Fuel capacity, and Vehicl
#It also contains following member functions in it:
#getVehicleDetails(): To accept vehicle details from user.
#showVehicleDetails(): To display vehicle details.
#Inherit two classes from Vehicle; class Truck with instance variable Weight limit and class Bus with instance
#Passenger capacity. Add appropriate member functions in both derived classes. Create Python program to solve t
#inheritance problem.
class Vehicle:
    def __init__(self, model='', reg_no='', fuel_cap=0.0, speed=0.0):
        self.model = model
        self.reg_no = reg_no
        self.fuel_cap = fuel_cap
        self.speed = speed
    def get_details(self):
        self.model = input("Enter vehicle model: ")
        self.reg_no = input("Enter registration number: ")
        self.fuel_cap = float(input("Enter fuel capacity: "))
        self.speed = float(input("Enter vehicle speed: "))
    def show_details(self):
        print("Vehicle Model:", self.model)
        print("Registration Number:", self.reg_no)
        print("Fuel Capacity:", self.fuel_cap)
        print("Vehicle Speed:", self.speed)


class Truck(Vehicle):
    def __init__(self, model='', reg_no='', fuel_cap=0.0, speed=0.0, weight_limit=0.0):
        Vehicle.__init__(self, model, reg_no, fuel_cap, speed)
        self.weight_limit = weight_limit
    def get_details(self):
        Vehicle.get_details(self)
        self.weight_limit = float(input("Enter weight limit: "))
    def show_details(self):
        Vehicle.show_details(self)
        print("Weight Limit:", self.weight_limit)


class Bus(Vehicle):
    def __init__(self, model='', reg_no='', fuel_cap=0.0, speed=0.0, passenger_cap=0):
        Vehicle.__init__(self, model, reg_no, fuel_cap, speed)
        self.passenger_cap = passenger_cap
    def get_details(self):
        Vehicle.get_details(self)
        self.passenger_cap = int(input("Enter passenger capacity: "))
    def show_details(self):
        Vehicle.show_details(self)
        print("Passenger Capacity:", self.passenger_cap)


print("Truck Details:")
truck = Truck()
truck.get_details()
truck.show_details()
print()

print("Bus Details:")
bus = Bus()
bus.get_details()
bus.show_details()
```

```
Truck Details:

Enter vehicle model:  Tata
Enter registration number:  1234
Enter fuel capacity:  70
Enter vehicle speed:  85
Enter weight limit:  60

Vehicle Model: Tata
Registration Number: 1234
Fuel Capacity: 70.0
Vehicle Speed: 85.0
Weight Limit: 60.0

Bus Details:
```

```
Enter vehicle model:  Volvo
Enter registration number:  2345
Enter fuel capacity:  65
Enter vehicle speed:  70
Enter passenger capacity:  50

Vehicle Model: Volvo
Registration Number: 2345
Fuel Capacity: 65.0
Vehicle Speed: 70.0
Passenger Capacity: 50
```

In [1]:

```python
#Q3 Create a class Employee with instance variable Employee No and Name. Also create a class Salary with instan
#variables Department and Basic Salary. Derived a class EmployeeSalary from the above two classes. Create Pytho
#program to calculate employee's Gross Salary and Net Salary along with DA, HRA, PF, and IT. Accept all the
#information from user and Display all the salary details back to user.
class Employee:
    def __init__(self, emp_no, name):
        self.emp_no = emp_no
        self.name = name

class Salary:
    def __init__(self, department, basic_salary):
        self.department = department
        self.basic_salary = basic_salary

class EmployeeSalary(Employee, Salary):
    def __init__(self, emp_no, name, department, basic_salary):
        Employee.__init__(self, emp_no, name)
        Salary.__init__(self, department, basic_salary)
        self.da = 0.2 * basic_salary
        self.hra = 0.1 * basic_salary
        self.pf = 0.05 * basic_salary
        self.it = 0.1 * basic_salary
        self.gross_salary = basic_salary + self.da + self.hra
        self.net_salary = self.gross_salary - self.pf - self.it
    def display_details(self):
        print("Employee No:", self.emp_no)
        print("Name:", self.name)
        print("Department:", self.department)
        print("Basic Salary:", self.basic_salary)
        print("DA:", self.da)
        print("HRA:", self.hra)
        print("PF:", self.pf)
        print("IT:", self.it)
        print("Gross Salary:", self.gross_salary)
        print("Net Salary:", self.net_salary)


emp_no = int(input("Enter employee number: "))
name = input("Enter employee name: ")
department = input("Enter department: ")
basic_salary = float(input("Enter basic salary: "))

employee_salary = EmployeeSalary(emp_no, name, department, basic_salary)
employee_salary.display_details()
```

```
Enter employee number:  101
Enter employee name:  Shyam
Enter department:  IT
Enter basic salary:  50000

Employee No: 101
Name: Shyam
Department: IT
Basic Salary: 50000.0
DA: 10000.0
HRA: 5000.0
PF: 2500.0
IT: 5000.0
Gross Salary: 65000.0
Net Salary: 57500.0
```

In [ ]:

```python

```