**LAB 10**

**TASK 1**

**﻿**from abc import ABC,abstractmethod

class Employee(ABC):

def \_\_init\_\_(self, name, CNIC):

self.\_\_name = name

self.\_\_CNIC = CNIC

@abstractmethod

def monthly\_earnings(self):

pass

def get\_details(self):

return self.\_\_name, "and", self.\_\_CNIC

class SalariedEmployee(Employee):

def \_\_init\_\_(self, weeklySalary, name, CNIC):

super(). \_\_init\_\_(name, CNIC)

self.\_\_weeklySalary = weeklySalary

def monthly\_earnings(self):

return 4 \* self.\_\_weeklySalary

def get\_details(self):

return super().get\_details(), "and", self.monthly\_earnings()

class HourlyEmployee(Employee):

def \_\_init\_\_(self, wage, hours, name, CNIC):

super(). \_\_init\_\_(name, CNIC)

self.\_\_wage = wage

self.\_\_hours = hours

def monthly\_earnings(self):

if self.\_\_hours > 40:

a = (self.\_\_hours - 40)\*1.5

b = a \* self.\_\_wage

c = b + (self.\_\_wage \* 40)

return c

else:

return self.\_\_wage \* self.\_\_hours

def get\_details(self):

return super().get\_details(), "and", self.monthly\_earnings()

def main():

E1 = SalariedEmployee(x, y, z)

E2 = SalariedEmployee(r, s, t)

E3 = HourlyEmployee(e, f, g, h)

print(E1.monthly\_earnings())

print(E1.get\_details())

print(E2.monthly\_earnings())

print(E2.get\_details())

print(E3.monthly\_earnings())

print(E3.get\_details())

x = int(input("Weekly salary of employee 1 : "))

y = str(input("Name of employee 1 : "))

z = int(input("CNIC number of employee 1 : "))

r = int(input("Weekly salary of employee 2 : "))

s = str(input("Name of employee 2 : "))

t = int(input("CNIC number of employee 2 : "))

e = float(input("wage of employee 3 : "))

f = float(input("Total hours of employee 3 :"))

g = str(input("Name of employee 3 : "))

h = int(input("CNIC number of employee 3 : "))

main()

**TASK 2**

**﻿**from abc import ABC,abstractmethod

class Employee(ABC):

def \_\_init\_\_(self, name, CNIC, basicSalary):

self.\_\_name = name

self.\_\_CNIC = CNIC

self.\_\_basicSalary = basicSalary

def get\_name(self):

return self.\_\_name

def get\_CNIC(self):

return self.\_\_CNIC

def get\_basicSalary(self):

return self.\_\_basicSalary

def set\_basicSalary(self, new\_salary):

if isinstance(new\_salary, float):

self.\_\_basicSalary = new\_salary

else:

print("invalid")

@abstractmethod

def monthly\_earnings(self):

pass

class Manager(Employee):

def \_\_init\_\_(self, department, house\_allowance, name, CNIC, basicSalary):

super(). \_\_init\_\_(name, CNIC, basicSalary)

self.\_\_department = department

self.\_\_house\_allowance = house\_allowance

def get\_department(self):

return self.\_\_department

def get\_house\_allowance(self):

return self.\_\_house\_allowance

def set\_department(self, new\_department):

if isinstance(new\_department, str):

self.\_\_department = new\_department

else:

print("invalid")

def set\_house\_allowance(self, new\_house\_allowance):

if isinstance(new\_house\_allowance, float):

self.\_\_house\_allowance = new\_house\_allowance

else:

print("invalid")

def monthly\_earnings(self):

return super().get\_basicSalary() + self.\_\_house\_allowance

class Developer(Employee):

def \_\_init\_\_(self, technology, name, CNIC, basicSalary):

super(). \_\_init\_\_(name, CNIC, basicSalary)

self.\_\_technology = technology

def get\_technology(self):

return self.\_\_technology

def set\_technology(self, new\_technology):

if isinstance(new\_technology, str):

self.\_\_technolgy = new\_technology

else:

print("invalid")

def monthly\_earnings(self):

return super().get\_basicSalary

class CEO(Employee):

def \_\_init\_\_(self, medical\_allowance, name, CNIC, basicSalary):

super(). \_\_init\_\_(name, CNIC, basicSalary)

self.\_\_medical\_allowance = medical\_allowance

def get\_medical\_allowance(self):

return self.\_\_medical\_allowance

def set\_mediacl\_allowance(self, new\_medical\_allowance):

if isinstance(new\_medical\_allowance, float):

self.\_\_medical\_allowance = new\_medical\_allowance

else:

print("invalid")

def monthly\_earnings(self):

return super().get\_basicSalary() + self.\_\_medical\_allowance

def main():

E1 = Manager(a, b, c, d, e)

E2 = Developer(q, r, s, t)

E3 = CEO(i, j , k, l)

print(E1.monthly\_earnings())

print(E2.monthly\_earnings())

print(E3.monthly\_earnings())

E1.set\_basicSalary(e\*0.1)

E2.set\_basicSalary(t\*0.07)

E3.set\_basicSalary(l\*0.05)

print(E1.monthly\_earnings())

print(E2.monthly\_earnings())

print(E3.monthly\_earnings())

a = str(input("Department of first employee 1 : "))

b = float(input("House allowance of employee 1 : "))

c = str(input("Name of employee 1 :"))

d = int(input("CNIC number or employee 1 : "))

e = float(input("Basic salary of employee 1 : "))

q = str(input("Technology of employee 2 : "))

r = str(input("Name of employee 2 :"))

s = int(input("CNIC number or employee 2 : "))

t = float(input("Basic salary of employee 2 : "))

i = float(input("Medical allowance of employee 3 : "))

j = str(input("Name of employee 3 :"))

k = int(input("CNIC number or employee 3 : "))

l = float(input("Basic salary of employee 3 : "))

main()