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DS&A Lab 1

Submitted to:
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1. Create a class named “Employee” with data members Name & Address. Create a method in the class display to print the data members of an object. Create 3 objects of the class in the main function and call the display method on all the objects.

```
1 #include <iostream>
2 #include <string>
3 #include "separateInterface.cpp"
4 using namespace std;
5
6 int main()
7 {
8     Employee e1 = Employee("Haseeb", "mardan");
9     Employee e2 = Employee("Bilal", "Malakand");
10    Employee e3 = Employee("Muhammad Hammad", "Pindi");
11
12    e1.ShowMembers();
13    e2.ShowMembers();
14    e3.ShowMembers();
15 }
```

main.cpp

```
1 #include<iostream>
2 using namespace std;
3
4 class Employee{
5     string name;
6     string address;
7
8     public:
9     Employee(string name1, string adress2) : name(name1), address(adress2){};
10
11     void ShowMembers(){
12         cout<<"Name of the employee: "<< name<< "\n";
13         cout<<"Adress of the employee: "<<address<<"\n";
14     }
15
16
17
18 };
```

separateInterface.cpp

```
Name of the employee: Haseeb
Adress of the employee: mardan
Name of the employee: Bilal
Adress of the employee: Malakand
Name of the employee: Muhammad Hammad
Adress of the employee: Pindi
```

output

- Derive “Salaried_Emp” and “Hourly_Emp” classes from the Employee class and implement a method called “Calculate_salary” in both classes. What would differentiate the salary of the two sub-classes of employees. Add appropriate members to the sub-classes.

Then, create objects of the derived classes using “new” operator with parameterized constructors and execute the calculate_salary method for the objects.

main.cpp

```
1  #include <iostream>
2  #include <string>
3  #include "separateInterface.cpp"
4  using namespace std;
5
6  int main()
7  {
8
9      Employee* Salaried_Emp_Ptr = new Salaried_Emp("Haseeb", "Mardan", 300);
10     //300 dollars paid daily to the Salaried Employee
11     Salaried_Emp_Ptr -> calculateSalary();
12
13
14     Employee* Hourly_Emp_Ptr = new Hourly_Emp("Muhammad Bilal", "Malakan", 8*30, 34);
15     //8 hours per day for 30 days. 34 dollars per hour
16     Hourly_Emp_Ptr -> calculateSalary();
17 }
18
```

separateInterface.cpp

```
1  #include<iostream>
2  using namespace std;
3
4  class Employee{
5      string name;
6      string address;
7
8      public:
9      Employee(string name1, string address2) : name(name1), address(address2){};
10
11      void ShowMembers(){
12          cout<<"Name of the employee: "<< name<< "\n";
13          cout<<"Address of the employee: "<<address<<"\n";
14      }
15
16      virtual void calculateSalary(){};
17
18  };
19
20  class Hourly_Emp : public Employee{
21
22      int hours;
23      int salaryPerHour;
24
25      public:
26
27      Hourly_Emp(string name1, string address1, int no_of_hours, int salary_per_hour) : Employee(name1, address1), hours(no_of_hours), salaryPerHour(salary_per_hour){}
28
29      void calculateSalary(){
30          cout<<"Salary of the Salaried Employee is "<<salaryPerHour *hours<<endl;
31      }
32
33      void showMembers(){
34          ShowMembers();
35          cout<<"now of the hours: "<< hours<< "\n";
36          cout<<"Salary per hour of the employee: "<<salaryPerHour<<"\n";
37      }
38
39  };
40
41  };
42
43
44
45  class Salaried_Emp : public Employee{
46
47      int salaryPerDay;
48
49      public:
50      Salaried_Emp(string name1, string address1, int SalaryPerDay) : Employee(name1, address1), salaryPerDay(SalaryPerDay){}
51
52
53      void calculateSalary(){
54          cout<<"Salary of the salaried employee is "<< salaryPerDay*30<<endl;
55      }
56
57      void showMembers(){
58          ShowMembers();
59          cout<<"Salary per day of the salaried employee: "<<salaryPerDay<<"\n";
60      }
61
62  };
63  };
```

```
● PS C:\Users\saboo\OneDrive\Desktop\Data Structures CW\Day2\Task1>  
Salary of the salaried employee is 9000  
Salary of the Salaried Employee is 8160  
○ PS C:\Users\saboo\OneDrive\Desktop\Data Structures CW\Day2\Task1>
```

Output

The End.

Submitted to : Engr. Sohail

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