CSE Assignment (C++)

Problem 1

Question:

> *Program to input the student details like Name, Regno, YearOfStudy, Branch, Marks in 5 subjects and print the details in a formatted manner.*

Code:

```
#include <iostream>

int main()
{
    char name[100], regno[20], branch[50];
    int YearOfStudy, marks[5];

    std::cout << "Enter your Name : ";
    std::cin >> name;

    std::cout << "Enter your Reg.No : ";
    std::cin >> regno;

    std::cout << "Enter your Branch : ";
    std::cin >> branch;

    std::cout << "Enter your Year of Study : ";
    std::cin >> YearOfStudy;

    std::cout << std::endl;

    for (int i = 0; i < 5; i++)
    {
        std::cout << "Enter your marks in subject " << i + 1 << " : ";
        std::cin >> marks[i];
    }

    std::cout << "Name : " << name << std::endl;
    std::cout << "Register Number : " << regno << std::endl;
    std::cout << "Branch : " << branch << std::endl;
    std::cout << "Year of Study : " << YearOfStudy << std::endl;

    for (int i = 0; i < 5; i++)
    {
        std::cout << "Your marks in subject " << i + 1 << " : " << marks[i] <<
std::endl;
    }

    return 0;
}
```

Output:

```
Enter your Name : Igaram
Enter your Reg.No : 12345
Enter your Branch : Btech
Enter your Year of Study : 2

Enter your marks in subject 1 : 40
Enter your marks in subject 2 : 23
Enter your marks in subject 3 : 44
Enter your marks in subject 4 : 45
Enter your marks in subject 5 : 55
Name : Igaram
Register Number : 12345
Branch : Btech
Year of Study : 2
Your marks in subject 1 : 40
Your marks in subject 2 : 23
Your marks in subject 3 : 44
Your marks in subject 4 : 45
Your marks in subject 5 : 55
```

Problem 2

Question:

> *Program to create a structure called Employee with members as EmpId, Name, Age, BasicSalary, DA(in %), PF(in % of BasicSalary), GrossSalary and NetSalary. GrossSalary = BasicSalary + BasicSalary*DA. NetSalary = GrossSalary – PF. Input the details for 3 employees and print the details of each employee in a formatted manner.*

Code:

```
#include <iostream>

int main()
{
    struct Employee
    {
        char EmpId[10];
        char Name[100];
        int Age;
        int DA;
        int PF;
        int BasicSalary;
        int GrossSalary;
        int NetSalary;
    }emp[3];
```

```
    for (int i = 0; i < 3; i++)
    {
        std::cout << "Enter your ID : ";
        std::cin >> emp[i].EmpId;

        std::cout << "Enter your Name : ";
        std::cin >> emp[i].Name;

        std::cout << "Enter your Age : ";
        std::cin >> emp[i].Age;

        std::cout << "Enter your Dearness Allowance in Percentage : ";
        std::cin >> emp[i].DA;

        std::cout << "Enter your Provident Fund in Percentage : ";
        std::cin >> emp[i].PF;

        std::cout << "Enter your Base Salary : ";
        std::cin >> emp[i].BasicSalary;

        emp[i].GrossSalary = emp[i].BasicSalary + ((float)emp[i].BasicSalary *
((float)emp[i].DA / 100.00));
        emp[i].NetSalary = emp[i].GrossSalary + ((float)emp[i].BasicSalary *
((float)emp[i].PF / 100.00));
    }

    for (int i = 0; i < 3; i++)
    {
        std::cout << "Your ID : ";
        std::cout << emp[i].EmpId << std::endl;

        std::cout << "Your Name : ";
        std::cout << emp[i].Name << std::endl;

        std::cout << "Your Age : ";
        std::cout << emp[i].Age << std::endl;

        std::cout << "Your Net Salary : ";
        std::cout << emp[i].NetSalary << std::endl;
    }

    return 0;
}
```

Output:

```
Enter your ID : ABCC3
Enter your Name : Abba
Enter your Age : 19
Enter your Dearness Allowance in Percentage : 37
Enter your Provident Fund in Percentage : 4
Enter your Base Salary : 45000
```

```
Enter your ID : ACCB2
Enter your Name : Babba
Enter your Age : 23
Enter your Dearness Allowance in Percentage : 33
Enter your Provident Fund in Percentage : 2
Enter your Base Salary : 32000
Enter your ID : AVVS5
Enter your Name : Cabba
Enter your Age : 34
Enter your Dearness Allowance in Percentage : 76
Enter your Provident Fund in Percentage : 5
Enter your Base Salary : 72000
Your ID : ABCC3
Your Name : Abba
Your Age : 19
Your Net Salary : 63450
Your ID : ACCB2
Your Name : Babba
Your Age : 23
Your Net Salary : 43200
Your ID : AVVS5
Your Name : Cabba
Your Age : 34
Your Net Salary : 130320
```

Problem 3

Question:

> *In Q.No-1A, compute the total marks of the student and the percentage and print along with the details of student.*

Code:

```cpp
#include <iostream>

int main()
{
    char name[100], regno[20], branch[50];
    int YearOfStudy, marks[5], total = 0;

    std::cout << "Enter your Name : ";
    std::cin >> name;

    std::cout << "Enter your Reg.No : ";
    std::cin >> regno;

    std::cout << "Enter your Branch : ";
    std::cin >> branch;

    std::cout << "Enter your Year of Study : ";
```

```
    std::cin >> YearOfStudy;

    std::cout << std::endl;

    for (int i = 0; i < 5; i++)
    {
        std::cout << "Enter your marks in subject " << i + 1 << " : ";
        std::cin >> marks[i];

        total += marks[i];
    }

    std::cout << "Name : " << name << std::endl;
    std::cout << "Register Number : " << regno << std::endl;
    std::cout << "Branch : " << branch << std::endl;
    std::cout << "Year of Study : " << YearOfStudy << std::endl;

    for (int i = 0; i < 5; i++)
    {
        std::cout << "Your marks in subject " << i + 1 << " : " << marks[i] <<
std::endl;
    }

    std::cout << "Total marks obtained : " << total << std::endl;
    std::cout << "Percentage : " << ((float)total / 500) * 100 << std::endl;

    return 0;
}
```

Output:

```
Enter your Name : Alsara
Enter your Reg.No : 1233445
Enter your Branch : B.Tech-Mech
Enter your Year of Study : 3

Enter your marks in subject 1 : 33
Enter your marks in subject 2 : 45
Enter your marks in subject 3 : 100
Enter your marks in subject 4 : 77
Enter your marks in subject 5 : 88
Name : Alsara
Register Number : 1233445
Branch : B.Tech-Mech
Year of Study : 3
Your marks in subject 1 : 33
Your marks in subject 2 : 45
Your marks in subject 3 : 100
Your marks in subject 4 : 77
Your marks in subject 5 : 88
Total marks obtained : 343
Percentage : 68.6
```

Problem 4

Question:

> *In Q.No-1B, input the details for ‘n’ employees, compute the salary details and print the details of all the employees in tabular form.*

Code:

```
#include <iostream>

int main()
{
    struct Employee
    {
        char EmpId[10];
        char Name[100];
        int Age;
        int DA;
        int PF;
        int BasicSalary;
        int GrossSalary;
        int NetSalary;
    };

    int n;

    std::cout << "How many employees would you like to store : ";
    std::cin >> n;

    struct Employee emp[n];

    for (int i = 0; i < n; i++)
    {
        std::cout << "Enter your ID : ";
        std::cin >> emp[i].EmpId;

        std::cout << "Enter your Name : ";
        std::cin >> emp[i].Name;

        std::cout << "Enter your Age : ";
        std::cin >> emp[i].Age;

        std::cout << "Enter your Dearness Allowance in Percentage : ";
        std::cin >> emp[i].DA;

        std::cout << "Enter your Provident Fund in Percentage : ";
        std::cin >> emp[i].PF;

        std::cout << "Enter your Base Salary : ";
        std::cin >> emp[i].BasicSalary;
```

```
        emp[i].GrossSalary = emp[i].BasicSalary + ((float)emp[i].BasicSalary *
((float)emp[i].DA / 100.00));
        emp[i].NetSalary = emp[i].GrossSalary + ((float)emp[i].BasicSalary *
((float)emp[i].PF / 100.00));
    }

    std::cout << "ID\t";
    std::cout << "Name\t";
    std::cout << "Age\t";
    std::cout << "Net Salary\t" << std::endl;

    for (int i = 0; i < n; i++)
    {
        std::cout << emp[i].EmpId << "\t";
        std::cout << emp[i].Name << "\t";
        std::cout << emp[i].Age << "\t";
        std::cout << emp[i].NetSalary << "\t" << std::endl;
    }

    return 0;
}
```

Output:

```
How many employees would you like to store : 2
Enter your ID : All
Enter your Name : One
Enter your Age : 56
Enter your Dearness Allowance in Percentage : 44
Enter your Provident Fund in Percentage : 4
Enter your Base Salary : 44000
Enter your ID : One
Enter your Name : All
Enter your Age : 65
Enter your Dearness Allowance in Percentage : 55
Enter your Provident Fund in Percentage : 5
Enter your Base Salary : 55000
ID  Name    Age Net Salary
All One 56  65120
One All 65  88000
```
