C++ Structures Lab Assignments 'B', 'C' 30-1-2023

1. **Reading, adding, subtracting, multiplying and printing of complex numbers**

Write functions to add, subtract and multiply two complex numbers using structures. The functions should be coded as below and call them in main function.

```
struct complex
{
  int real;
  int imag;
};
```

complex readc() , void printc(complex N)

complex addc(complex N1, complex N2) , void subc(complex N1, complex N2**, complex &N3**)

2. **Polynomial reading, addition, subtraction, printing.**

A polynomial is an expression that contains more than two terms. A term is made up of coefficient and exponent. The polynomial addition/subtraction is to add/subtract coefficient parts of the polynomials having same exponent.

Example: $P(x) = 4x^3+6x^2+7x+9$

```
 struct poly   {
            int coeff;
            int expo;
 };
 // declare three arrays p1, p2, p3 of type structure poly,
 struct poly p1[10],p2[10],p3[10];
 // functions
   int readPoly(struct poly [])  //returns the number of terms of the polynomial,ie, read till exponent=0
   int addPoly(struct poly [],struct poly [],int ,int ,struct poly []) // returns the number of terms of the resultant polynomial
   void subPoly(struct poly [],struct poly [],int ,int ,struct poly [], int &t3)  // t3 is the number of terms of the resultant polynomial
   void displayPoly( struct poly [],int terms)
```

3. **Reading, Sorting, and printing of Array of structures**

Write functions for read(), print() of array of structure of fields with :

(rno is integer, sub-marks[4] is array of integer, total is integer)

Write a function which fills/updates the filed total in each of the structure as per the marks.

Then **sort** the array of structs according to total and prints all details of the sorted array.

Put effort in thinking
Get perfect in coding

~ KR

"Curiosity is the art of creativity
Coding is the act of capability " ~KR

"Intelligence is to be balanced with Hard work
Hard work gets balanced with Intelligence"

~ KR