ASSIGNMENT 1
ADVANCED DATA STRUCTURE

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Module Name: Advanced Data Structures

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<u>**Pre –Assignment ADS [DAY 1] :~**</u>

1. **Write a program to display the following output using a single cout statement.**

Subject	Marks
Big Data Technologies	90
Statistics	77
Advanced Data Structures	69

<u>**Program :~**</u>

```
#include <iostream>
using namespace std;

int main()
{
cout<<"\t Subject \t\t\t Marks \n\tBig Data Technologies  \t\t  90 \n\tStatistic \t\t\t
77 \n\tAdvanced Data Structures \t  69 ";

return 0;
}
```

<u>**Output :~**</u>

Result...

CPU Time: 0.00 sec(s), Memory: 3176 kilobyte(s)   compiled and executed in 1.531 sec(s)

```
        Subject              Marks
    Big Data Technologies      90
    Statistic                  77
    Advanced Data Structures   69
```

2. Write a program in c++ to swap value of two ages of Ram and Shyam without using third variable

Program :~

```cpp
#include <iostream>
using namespace std;

int main()
{

    int ShyamAGE, RamAGE;

    cout<<"\n \t Please Enter Age of Shyam : ";
    cin>>ShyamAGE;

    cout<<"\n \t Please Enter Age of Ram : ";
    cin>>RamAGE;

    //displaying numbers Before Swapping

    cout << "\n\n\tBefore swapping." << endl;
    cout << "\n\t ShyamAGE = " << ShyamAGE << ",\t RamAGE = " << RamAGE << endl;

    //Swapping

    ShyamAGE = ShyamAGE + RamAGE;
    RamAGE = ShyamAGE - RamAGE;
    ShyamAGE = ShyamAGE - RamAGE;

    //displaying numbers Before Swapping

    cout << "\n\t After swapping." << endl;

    cout << "\n\t ShyamAGE = " << ShyamAGE << ", \t RamAGE = " << RamAGE << endl;

    return 0;
}
```

Output :~

Result...

compiled and executed in 8.986 sec(s)

```
    Please Enter Age of Shyam : 25

    Please Enter Age of Ram : 30


  Before Swapping.

   ShyamAGE = 25,  RamAGE = 30

   After Swapping.

   ShyamAGE = 30,     RamAGE = 25
```

3. Write a program which accepts amount as integer and display total number of Notes of Rs. 100, 50, 20, 10, 5 and 1.
   For example, when user enter a number, 175,
   The results would be like this...

   100: 1
   50: 1
   20: 1
   10: 0
   5: 1
   1: 0

Program :~

```cpp
#include<iostream>
using namespace std;

int main()
{
    int amt,R100,R50,R20,R10,R5,R1;
    cout<<"Please Enter Amount : ";
```

```
cin>>amt;
R100=amt/100;
amt=amt%100;
R50=amt/50;
amt=amt%50;
R20=amt/20;
amt=amt%20;
R10=amt/10;
amt=amt%10;
R5=amt/5;
amt=amt%5;
R1=amt;
cout<<"\nRs.100 : "<<R100<<"\nRs. 50 : "<<R50<<
        "\nRs. 20 : "<<R20<<"\nRs. 10 : "<<R10<<"\nRs.  5 : "<<R5<<"\nRs.  1 :
"<<R1;

        return 0;
}
```

Output :~

```
Result...

compiled and executed in 5.977 sec(s)

Enter amount : 386

Rs.100 : 3
Rs. 50 : 1
Rs. 20 : 1
Rs. 10 : 1
Rs.  5 : 1
Rs.  1 : 1
```

4. **Write a program which accept two T20 ODI'S averages of Mithali Raj and print their average**

   Program :~

```cpp
#include <iostream>
using namespace std;

int main(){
float x,y,sum;
float average;

cout << "\n\t Enter Two T20 Averages for Mithali :  " << endl;
cin>>x>>y;
sum=x+y;
average=sum/2;

cout << "The sum of " << x << " and " << y << " is " << sum << "." << endl;
cout << "\n The Total Performance Average of Mithali's T20 : " << x << " and " <<
y << " is " << average << "." << endl;
}
```

Output :~

Result...

compiled and executed in 8.67 sec(s)

```
Enter Two T20 Averages for Mithali :
60.45
58.65
The sum of 60.45 and 58.65 is 119.1.


The Total Performance Average of Mithali's T20 : 60.45 and 58.65 is 59.55.
```

5. **Create your account in github (https://github.com) and push the above programs to your git account.**

GitHub ID : Dusaneashish