Lab 5

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Question1:

Code:

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

class Time{
   int hrs, min;
   public:
      void display(){
         cout << "Hours : " << hrs << endl;
         cout << "Minutes : " << min << endl;
      }
      void operator=(int d){
         // Basic type ==> Class Type Conversion
         hrs = d / 60;
         min = d % 60;
      }
};

int main(){
   Time t1;
   int period;
   cout << "Enter time duration in minutes : ";
   cin >> period;
   // // Basic type ==> Class Type Conversion
   t1 = period;
   t1.operator=(period);
   t1.display();
   return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5\" ; if ($?) { g++ 1.cpp -o 1 } ; if ($?) { .\1 }
Enter time duration in minutes : 135
Hours : 2
Minutes : 15
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5>
```

Question2:

Code:

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

class Time{
   int min;
   public:
      Time(){
         cout << "Enter minutes : ";
         cin >> min;
      }
      operator int(){
         // Class Type ==> Basic Type Conversion
         if(min > 60){
            int h = min / 60;
            min = min - (h*60);
            return h;
         }
         else{
            int m = min % 60;
            return m;
         }
      }
      ~Time(){
      };
};

int main(){
   Time t1;
   int hours, minutes;
   // Class Type ==> Basic Type Conversion
   hours = t1.operator int();
   minutes = t1.operator int();
   cout << "Hours : ";
   cout << hours << endl;
   cout << "Minutes : ";
   cout << minutes << endl;
   return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5\" ; if ($?) { g++ 2.cpp -o 2 } ; if ($?) { .\2 }
Enter minutes : 90
Hours : 1
Minutes : 30
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5>
```

Question3:

Code:

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

class Time{
   int min;
   public:
      Time(int a){
         min = a;
      }
      int get_duration(){
         if(min > 60){
            int h = min / 60;
            min = min - (h*60);
            return h;
         }
         else{
            int m = min % 60;
            return m;
         }
      }
      void display(){
         cout << "\nTotal Minutes : " << min << endl;
      }
};

class Minutes{
   int h, m;
   public:
      Minutes(){
         h = 0; m = 0;
      }
      void operator=(Time t){
         h = t.get_duration();
         m = t.get_duration();
      }
      void display(){
         cout << "Hours : " << h << endl;
         cout << "Minutes : " << m << endl;
      }
};

int main(){
   int hours, minutes;
   cout << "Enter Minutes : ";
   cin >> minutes;
   Time t1(minutes);
   Minutes m1;

   // Class Type ==> Class Type conversion
   // Time Class ==> Minute Class Conversion
   m1 = t1;
   t1.display();
   m1.display();

   return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5\" ; if ($?) { g++ 3.cpp -o 3 } ; if ($?) { .\3 }
Enter Minutes : 90

Total Minutes : 90
Hours : 1
Minutes : 30
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5>
```

Question4:

Code:

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

//Base class
class College{
   public:
      void display(){
         cout << "\n*******Demonstration of Inheritance******" << endl;
         cout << "Base class called using object of Derived class\n" << endl;
      }
};

// Derived class
class Student : public College{
};

int main(){
   Student s1;
   // calling a member function from Base Class
   s1.display();
   return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5\" ; if ($?) { g++ tempCodeRunnerFile.cpp -o tempCodeRunnerFile } ; if (
$?) { .\tempCodeRunnerFile }

*******Demonstration of Inheritance******
Base class called using object of Derived class

PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 5>
```