**WEEK\_3 TRANSCRIPT**

**Question 1**

**Code single**

I have created five programs each for each inheritance type. In the first program using single inheritance I created a base class and derived class and then using the variables of the inherited data members I created a derived class object in the main program and found the sum of three numbers.

**Code multiple**

In this program I created two base classes and a derived class which is derived from the two base classes and again found the same sum of three variables using the object of the derived class. since the base class variables are defied as public, we can directly access the variables of the base class form derived class itself.

**Code multi-level inheritance**

In this program I crated the first base class and from this I created another class and derived from the base class. and now making the derived class as base class I created another derived class from the previous derived class. Here also since the members are public, we can directly access the variables form the derived class itself. And using the derived class object I again found the sum of three variables.

**Code hierarchical inheritance**

Here I created a base class first, and then created two derived classes form the main base class. And using the first derived class object I found the output for sum of three variables and the same thing I did with the second derived class too.

**Code Hybrid class**

In this i mixed both hierarchical and multiple inheritance and using the derived class from the object of derived class in hierarchical inheritance I found the sum the values of two variables and then form the object of the derived class in multiple inheritance I found the sum of three variables.

**Question 2**

In this program at first, I have created a class and then an integer variable in it. I wanted to find the sum of two integers of different objects of same class but the member variables are private. So I overloaded the plus operator and created a temporary object inside the overladed operator function and stored the sum of the values of integers of both the objects into temp object and returned the temp obj. I stored the returned object into another object of same class, and then printed the sum of the values.

**Question 3**

I created a virtual function inside the base class and then inherited the base class and override the virtual function in the derived class. Then using pointer I passed the address of the derived class object to pointer of base class object and called both the functions defined in the classes and we can see the virtual function in the derived class in classed whereas the other function of base class is called since it is not declared as virtual function in the base class.

**Question 4**

**Code Ternary Operator**

Inside the main program I directly used the ternary operator to return which string to be printed according to the condition and the input that we give. So according, if the marks are more than 35 them pass string is returned else fail string is returned.

**Code this pointer**

In the class I gave the arguments to the initialize function as the same name as the data member of the class. So to overcome the variable priority situation, this pointer is used and the data member is initialized with the value given as input. And using the function members I initialized and displayed them.

**Code size of operator**

I defined four variables of four data types and using the sizeof operator I printed out the size of each datatype.

**Code new and delete operator**

In the starting I created a integer pointer and initialize it to a null value so that it will point to no other value. Then using the new operator, I initiated the pointer variable to an integer and using the delete operator I deleted the space allocated to the variable and removed the variable form existence. So overall we dynamically initialized an integer variable.