

Jaypee University of Engineering and Technology  
B. Tech. (CSE) - II Semester  
Object Oriented Programming (14B11CI211)  
Tutorial – 7(Inheritance)

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Q1 If a base class contains a member function `basefunc()`, and a derived class does not contain a function with this name, can an object of the derived class access `basefunc()`?

Q2 If a base class and a derived class each include a member function with the same name, which member function will be called by an object of the derived class, assuming the scope-resolution operator is not used?

Q3 Imagine a publishing company that markets both book and audio cassette versions of its work. Create a class `publication` that stores the title (a string) and price (type float) of a publication. From this class derive two classes: `book`, which adds a page count (type int), and `tape`, which adds a playing time in minutes (type float). Each of these three classes should have a `getdata()` function to get its data from the user at the keyboard, and a `putdata()` function to display its data. Write a `main()` program to test the `book` and `tape` classes by creating instances of them, asking the user to fill in data with `getdata()`, and then displaying the data with `putdata()`.

Q4 Write a program to derive a class `D` from three base classes `B1`, `B2` and `B3`.

Q5 Write a program to create multilevel inheritance. create classes `A1` , `A2` and `A3`

**Q6 Consider the following declaration and answer the questions given below**

<pre>class PPP {     int H; protected :     int S; public :     void input (int);     void out(); };</pre>	<pre>class QQQ : private PPP {     int T; protected :     int U; public :     void indata(int, int);     void outdata(); };</pre>	<pre>class RRR : public QQQ {     int M; public :     void disp(); };</pre>
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- i. Name the base class and derived class of the class **QQQ**.
- ii. Name the data member(s) that can be accessed from function **disp()**.
- iii. Name the member function(s), which can be accessed from the objects of class **RRR**.
- iv. Is the member function **out()** accessible by the object of the class **QQQ**?

**Q 7 Answer the questions (i) to (iv) based on the following:**

<pre>class Publisher {     char pub[12];     double turnover; protected:     void register(); public:     Publisher();</pre>	<pre>class Branch {     char city[20]; protected:     float employees; public:     Branch();     void haveit();</pre>	<pre>class Author : private Branch, public Publisher {     int acode;     char aname[20];     float amount; public:     Author();     void start();</pre>
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```

void enter();           void giveit();           void show();
void display();        };           };
};

```

- i. Write the names of data members, which are accessible from objects belonging to class **Author**.
- ii. Write the names of all the member functions which are accessible from objects belonging to class **Branch**.
- iii. Write the names of all the members which are accessible from member functions of class **Author**.
- iv. How many bytes will be required by an object belonging to class **Author**?

**Q8 Consider the following declarations and answer the question given below :**

```

class Vehicle           class Heavyvehicle : protected   class Bus : private
{                       Vehicle                           Heavyvehicle
private:                {
    int wheels;          int diesel_petrol;
protected :            protected :
    int passenger;       int load;
public :                public:
    void inputdata(int, int); void readdata(int, int);
    void outputdata();   void writedata();
};                       };

```

- (i) Name the base class and derived class of the class **Heavyvehicle**.
- (ii) Name the data member(s) that can be accessed from function **displaydata()**.
- (iii) Name the data member's that can be accessed by an object of **Bus** class.
- (iv) Is the member function **outputdata()** accessible to the objects of **Heavyvehicle** class.

**Q9 Answer the questions (i) to (iv) based on the following code :**

```

class Drug              class Tablet : public Drug        class PainReliever: public Tablet
{                       {                                  {
    char category[10];   protected:          int dosage_units;
char date_of_manufacture[10]; char tablet_name[30];
    char company[20];   char volume_label[20];
public:                 public:
    Drug();             float price;
Void enterdrugdetails(); Tablet();
    void showdrugdetails(); Void entertabletdetails();
};                       void showtabletdetails ();
                        };

```

- (i) How many bytes will be required by an object of class **Drug** and an object of class **PainReliever** respectively ?
- (ii) Write names of all the data members which are accessible from the object of class **PainReliever**.
- (iii) Write names of all the members accessible from member functions of class **Tablet**.
- (iv) Write names of all the member functions which are accessible from objects of class **PainReliever**