TUTORIAL-14

1) Types of inheritance supported in c++ are

Single inheritance : In single inheritance, a class is allowed to inherit from only one class i.e. one sub class is inherited by one base class only.

Multiple inheritance : Multiple inheritance is a feature of C++ where a class can inherit from more than one class i.e. one sub class is inherited from more than one base classes.

Multilevel inheritance : In this type of inheritance, a derived class is created from another derived class.

Hierarchical Inheritance : In this type of inheritance, more than one sub class is inherited from a single base class i.e. more than one derived class is created from a single base class.

Hybrid inheritance : Hybrid inheritance is implemented by combining more than one type of inheritance. for example : Combining Hierarchical inheritance and Multiple Inheritance

2.) protected

3.) output :

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4.) No the base class and its objects are independent and do not have any knowledge of any class derived from it.

5.) yes, because if the base class is not allocated memory its variables and functions cannot be inherited by derived class

6.)

```
## include < iostream >
## include < string.h >
using namespace std;

class profession {
 Public :
char
profession [4][50] = {" profession 1", " profession 2",
                      " profession 3", profession 4"};
};
class skills : public profession {
Public :
char skills [4][50] = {" skill 1", "skill 2", "skill 3", "skill 4"};
 };
int main ( ){
   skill s;
 int ;
char profession [50];
cout << " Enter a profession " << endl;
 cin >> profession;
for ( i=0; i<4; i++)
{
 if ( strcmp ( profession, s. profession [i]) == 0)
   {
   cout << s. skills [i];
```

```
}
}
return 0;
}}
```

```
) #include <iostream>
 #include <string.h>
 using namespace std;
class Employee 1 {
  Public :
char name1[50] = "ABC";
 int sal 1 = 5000;
};
class Employee 2 {
  Public :
 char name 2 [20] = "DEF";
   int sal 2 = 3000;
};
 class employee 3 {
   Public :
  char name 3 [50] = "GHI";
   int sal 3 = 4000;
 };
class Employee 4 {
  Public :
  char name 4 [50] = "JKL";
    int sal 4 = 6000;
};
```

```
Public Employee 3, public Employee 4;

t main() {
oyee e;
t << " Name of the employee" << e.name 1 << end 1 << "
    Salary " << e.sal 1 << end 1;

<< "Name of the employee" << e.name 2 << end 1 << "
   Salary " << e.sal 2 << end 1;
t << "Name of the employee " << e.name 3 << end 1 << "
   Salary " << e.sal 3 << end 1;
t << " Name of the employee " << e.name 4 << end 1 << "
   Salary " << e.sal 4 << end 1;
return 0;

# include <iostream>
using namespace std;

lass Mammals {
 public:
id print Mammals() {
cout << " I am mammal " << end 1;

lass Marine Animal {
Public:
d print Marine Animal() {
cout << " I am a marine animal " << end 1;
```

```
    }
};
class Blue whale : public Mammals, public Marine Animal {
public:
void print Blue whale () {
cout << "I belong to both the categories : Mammals as well as
    Marine Animals" << end l;
    }
};
int main () {
Blue whale blue;
Mammals mammal;
Marine Animal marine Animal;
mammal . print Mammal ();
marine Animal . print Marine Animal ();
blue . print Blue whale ();
blue . print Mammal ();
blue . print Marine Animal ();
return 0;
}
```