1.

```
#include <iostream>
#include <string>
using namespace std;
class Box
{
      int capacity;
    public:
      Box(int cap){
            capacity = cap;
      }

      friend void show();
};

void show()
{
      Box b(10);
      cout<<"Value of capacity is: "<<b.capacity<<endl;
}

int main(int argc, char const *argv[])
{
      show();
      return 0;
}
```

2.

```
using namespace std;
class Box
{
      int capacity;
    public:
      Box(int cap){
            capacity = cap;
      }
      friend void show();
};

void Box::show()
{
      Box b(10);
      cout<<"Value of capacity is: "<<b.capacity<<endl;
}

int main(int argc, char const *argv[])
{
      show();
      return 0;
}
```

3.
How many member functions are there in this C++ class excluding constructors and destructors?

```
class Box
{
      int capacity;
   public:
      void print();
      friend void show();
      bool compare();
      friend bool lost();
};
```

4.

```
#include <iostream>
#include <string>
using namespace std;
class B
{
      int b;
   public:
      B(int i){
            b = i;
      }
};

class C
{
      B b;
    public:
      C(int i){
            b = B(i);
      }
      friend void show();
};

void show()
{
      C c(10);
      cout<<"value of b is: "<<c.b.b<<endl;
}

int main(int argc, char const *argv[])
{
      show();
      return 0;
}
```

5.

```
class B
{
      int b;
     public:
      B(){}
      B(int i){
            b = i;
      }
      int show(){
            return b;
      }
};

class C
{
      B b;
     public:
      C(int i){
            b = B(i);
      }
      friend void show();
};

void show()
{
      C c(10);
      cout<<"value of b is: "<<c.b.show()<<endl;
}

int main(int argc, char const *argv[])
{
      show();
      return 0;
}
```

6.

```
class B
{
      int b;
   public:
      B(){}
      B(int i){
            b = i;
      }
      int show(){
            return b;
      }
};

class C
{
      B b;
    public:
      C(int i){
            b = B(i);
      }
      friend void show(){

            C c(10);
            cout<<"value of b is: "<<c.b.show()<<endl;
      }
};

int main(int argc, char const *argv[])
{
      show();
      return 0;
}
```

7.

```
class B
{
      int b;
    public:
      B(){}
      B(int i){
            b = i;
      }
      int show(){
            return b;
      }
};

class C
{
      B b;
    public:
      C(int i){
            b = B(i);
      }
      friend void show(){

            C c(10);
            cout<<"value of b is: "<<c.b.show()<<endl;
      }
};

int main(int argc, char const *argv[])
{
      C c(1);
      c.show();
      return 0;
}
```

8.

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

class B;
class A {
    int a;
public:
    A():a(0) { }
    void show(A& x, B& y);
};

class B {
private:
    int b;
public:
    B():b(0) { }
    friend void A::show(A& x, B& y);
};

void A::show(A& x, B& y) {
    x.a = 10;
    cout << "A::a=" << x.a << " B::b=" << y.b;
}

int main() {
    A a;
    B b;
    a.show(a,b);
    return 0;
}
```