Reference: Big C++.

Exercises 8:

Exercise R8.1.

CAR

Minivan

PickUpTruck

Coupe

Sedan

Truck

Vehicle

Bicycle

Motorcycle

SportUtilityVehicle

Exercise R8.2.

|  |  |
| --- | --- |
| Base class | Derived class (classes) |
| Person | * Student * Professor * TeachingAssistant * Employee * Secretary * Janitor * SeminarSpeaker |
| Employee | * Professor * TeachingAssistant * Secretary * Janitor |
| ComputerLab | * Professor * TeachingAssistant * Student * Course * Lecture |
| Seminar | * SeminarSpeaker |
| DepartmentChair |  |

Exercise R8.3.

class B

{

public:

B();

B(int n);

};

B::B()

{

cout << "B::B()\n";

}

B::B(int n)

{

cout << "B::B(" << n << ")\n";

}

class D : public B

{

public:

D();

D(int n);

private:

B b;

};

D::D()

{

cout << "D::D()\n";

}

D::D(int n)

: B(n)

{

b = B(-n);

cout << "D::D(" << n << ")\n";

}

The following program will print:

int main()

{

D d(3);

return 0;

}

"B::B(3)\n"

"B::B()\n"

"B::B(-3)\n"

"D::D(3)\n"

Exercise R8.4.

class B

{

public:

void print(int n) const;

};

void B::print(int n) const

{

cout << n << "\n";

}

class D : public B

{

public:

void print(int n) const;

};

void D::print(int n) const

{

if (n <= 1) B::print(n);

else if (n % 2 == 0) print(n / 2);

else print(3 \* n + 1);

}

int main()

{

D d;

d.print(3);

return 0;

}

The output: