

1. Select the four (4) statements that can be inserted at line n1.

```
employee.salary = 50000;  
director.salary = 80000;  
employee.budget = 20000;  
manager.budget = 100000;  
manager.stockOptions = 500;  
director.stockOptions = 1000;
```

```
public class Employee {  
    public int salary;  
}  
public class Manager extends Employee {  
    public int budget;  
}  
public class Director extends Manager {  
    public int stockOptions;  
}  
public static void main(String[] args) {  
    Employee employee = new Employee();  
    Manager manager = new Manager();  
    Director director = new Director();  
    //line n1  
}
```

Answer:

1. employee.salary = 50000;
2. director.salary = 80000;
3. manager.budget = 100000;
4. director.stockOptions = 1000;

2. Will the code compile? If yes, determine the output. If no, state why.

```
class Pet {  
    public Pet(int age) {  
        System.out.print("Pet");  
    }  
}  
public class Cat extends Pet {  
    public Cat() {  
        System.out.print("Cat");  
    }  
    public static void main(String[] args) {  
        new Pet(5);  
    }  
}
```

Answer:

The code will not compile because the Cat constructor fails to call the required Pet constructor, which takes an integer. Since Pet has no no-argument constructor, this causes a compilation error. The main method can create a Pet instance with 5, printing "Pet", but the Cat class prevents the code from compiling. The Cat constructor should call the Pet constructor with an integer to allow successful compilation and print "PetCat".