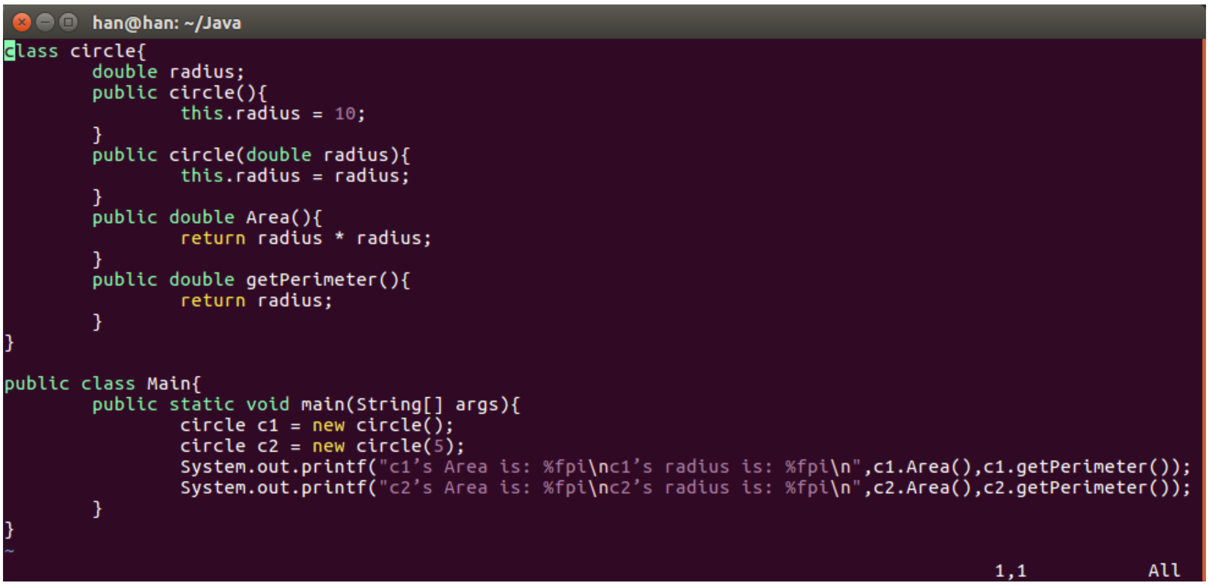
Embedded System Practice Java exercise Report

Exercise 1 소스코드입니다.

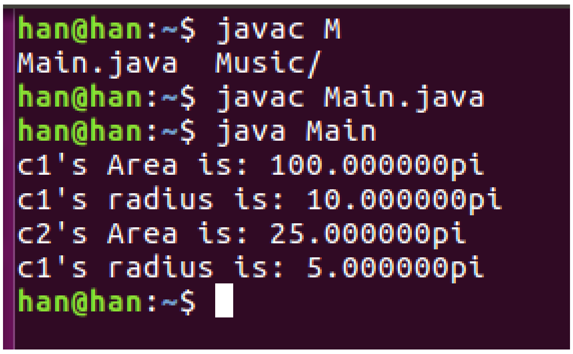


```
class circle{
        double radius;
        public circle(){
                this.radius = 10;
        }
        public circle(double radius){
                this.radius = radius;
        }
        public double Area(){
                return radius * radius;
        }
        public double getPerimeter(){
                return radius;
        }
}

public class Main{
        public static void main(String[] args){
                circle c1 = new circle();
                circle c2 = new circle(5);
                System.out.printf("c1’s Area is: %fpi\nc1’s radius is: %fpi\n",c1.Area(),c1.getPerimeter());
                System.out.printf("c2’s Area is: %fpi\nc2’s radius is: %fpi\n",c2.Area(),c2.getPerimeter());
        }
}
~
                                                                              1,1           All
```

Radius를 저장하게 하였고, 생성자를 두개 만들어 각각 argument가 있을 경우, 없을 경우 초기화가 가능하도록 하였습니다.

Area로 원의 넓이를 계산하도록 하였으며, getPerimeter로 radius를 알아낼 수 있도록 하였습니다.

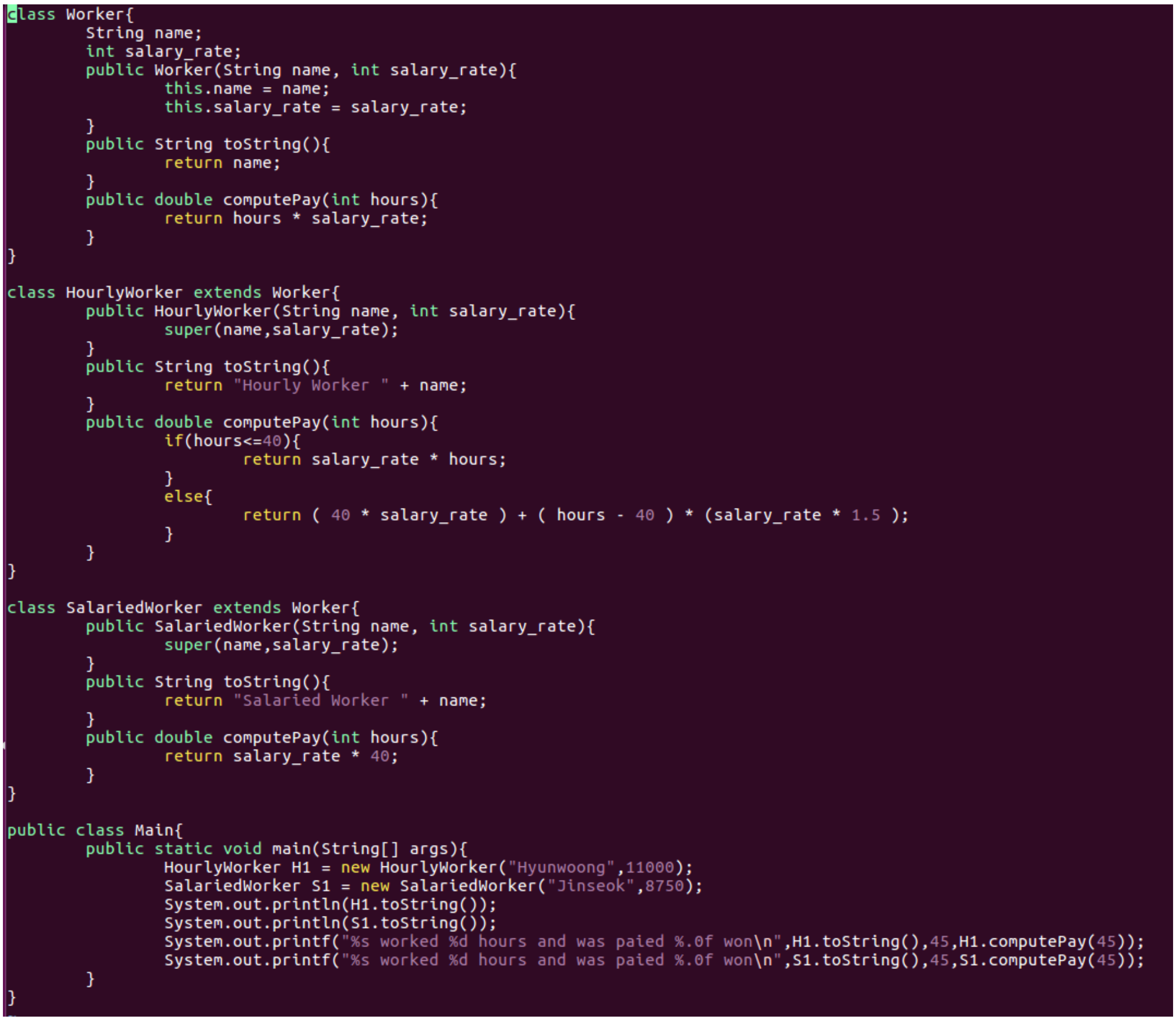
이후 main문에서 두 케이스를 모두 가정하여 출력해 보았으며, 아래 사진은 그 결과입니다.



```
han@han:~$ javac M
Main.java  Music/
han@han:~$ javac Main.java
han@han:~$ java Main
c1's Area is: 100.000000pi
c1's radius is: 10.000000pi
c2's Area is: 25.000000pi
c1's radius is: 5.000000pi
han@han:~$ 
```

```
class circle{
	double radius;
	public circle(){
		this.radius = 10;
	}
	public circle(double radius){
		this.radius = radius;
	}
	public double Area(){
		return radius * radius;
	}
	public double getPerimeter(){
		return radius;
	}
}

public class Main{
	public static void main(String[] args){
		circle c1 = new circle();
		circle c2 = new circle(5);
		System.out.printf("c1’s Area is: %fpi₩nc1’s radius is: %fpi₩n",c1.Area(),c1.getPerimeter());
		System.out.printf("c2’s Area is: %fpi₩nc2’s radius is: %fpi₩n",c2.Area(),c2.getPerimeter());
	}
}
```

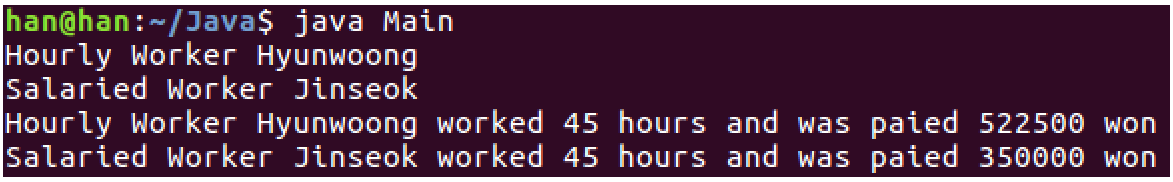
Exercise2소스코드입니다.



```
class Worker{
        String name;
        int salary_rate;
        public Worker(String name, int salary_rate){
                this.name = name;
                this.salary_rate = salary_rate;
        }
        public String toString(){
                return name;
        }
        public double computePay(int hours){
                return hours * salary_rate;
        }
}

class HourlyWorker extends Worker{
        public HourlyWorker(String name, int salary_rate){
                super(name,salary_rate);
        }
        public String toString(){
                return "Hourly Worker " + name;
        }
        public double computePay(int hours){
                if(hours<=40){
                        return salary_rate * hours;
                }
                else{
                        return ( 40 * salary_rate ) + ( hours - 40 ) * (salary_rate * 1.5 );
                }
        }
}

class SalariedWorker extends Worker{
        public SalariedWorker(String name, int salary_rate){
                super(name,salary_rate);
        }
        public String toString(){
                return "Salaried Worker " + name;
        }
        public double computePay(int hours){
                return salary_rate * 40;
        }
}

public class Main{
        public static void main(String[] args){
                HourlyWorker H1 = new HourlyWorker("Hyunwoong",11000);
                SalariedWorker S1 = new SalariedWorker("Jinseok",8750);
                System.out.println(H1.toString());
                System.out.println(S1.toString());
                System.out.printf("%s worked %d hours and was paied %.0f won\n",H1.toString(),45,H1.computePay(45));
                System.out.printf("%s worked %d hours and was paied %.0f won\n",S1.toString(),45,S1.computePay(45));
        }
}
```

Worker 를 상속한 HoulyWorker, SalariedWorker 두 class를 선언해 주었습니다. 각각 toString, computePay함수를 각 class에 맞춰 수정해 주었으며, Main문에서 두 임의의 인물과 시급을 가정하여 실험해 보았습니다.

Hyunwoong의 시급은 11000원, Jinseok의 시급은 8750으로 가정하였습니다.



```
han@han:~/Java$ java Main
Hourly Worker Hyunwoong
Salaried Worker Jinseok
Hourly Worker Hyunwoong worked 45 hours and was paied 522500 won
Salaried Worker Jinseok worked 45 hours and was paied 350000 won
```

```
class Worker{

	String name;

	int salary_rate;

	public Worker(String name, int salary_rate){

		this.name = name;

		this.salary_rate = salary_rate;

	}

	public String toString(){

		return name;

	}

	public double computePay(int hours){

		return hours * salary_rate;

	}

}


class HourlyWorker extends Worker{

	public HourlyWorker(String name, int salary_rate){

		super(name,salary_rate);

	}

	public String toString(){

		return "Hourly Worker " + name;

	}

	public double computePay(int hours){

		if(hours<=40){

			return salary_rate * hours;

		}
```

```
        else{
            return ( 40 * salary_rate ) + ( hours - 40 ) * (salary_rate * 1.5 );
        }
    }
}

class SalariedWorker extends Worker{
    public SalariedWorker(String name, int salary_rate){
        super(name,salary_rate);
    }
    public String toString(){
        return "Salaried Worker " + name;
    }
    public double computePay(int hours){
        return salary_rate * 40;
    }
}

public class Main{
    public static void main(String[] args){
        HourlyWorker H1 = new HourlyWorker("Hyunwoong",11000);
        SalariedWorker S1 = new SalariedWorker("Jinseok",8750);
        System.out.println(H1.toString());
        System.out.println(S1.toString());
        System.out.printf("%s worked %d hours and was paied %.0f won₩n",H1.toString(),45,H1.computePay(45));
```

```
			System.out.printf("%s worked %d hours and was paied %.0f won₩n",S1.toString(),45,S1.computePay(45));
	}
}
```