

A factory produces three types of machines in different specifications: printers, scanners and smartphones. Create an abstract class called Machine which includes a machine name, price, weight and a description. Include set and get methods for each one of these fields. The methods which set the machine's price and weight are abstract. Create three Machine child classes and name them: Printer, Scanner and Smartphone. The three machines must have prices and weights within a certain range as the table below shows:

Machine	Weight Range	Price Range
Printer	Less than 50 lbs Default: 25 lbs	\$40-\$200 inclusive Default: \$90
Scanner	2 lbs – 25 lbs Default: 10 lbs	\$60-\$300 inclusive Default: \$80
Smartphone	0.25 lbs – 0.5 lbs Default: 0.3 lbs	\$220-\$350 inclusive Default: \$200

You are expected to check on the ranges in your set methods. If the value is not within the range, it will automatically be set to the default value

Write an application named MachineTest that creates an array of ten objects. It should show how your program works for different objects of each category. For each machine, display the machine name, price, weight and a description. Save your files as Machine.java, Printer.java, Scanner.java, Smartphone.java, and TestMachine.java

Below is an output and it should look like this (NOTE: You lose points if the output is in a different format)

Machine: 1
Name: Printer A
Description: This is a laser printer
Price: 199.0
Weight: 30.0

Machine: 2
Name: Printer B
Description: This is an inkjet printer
Price: 40.0
Weight: 1.5

Machine: 3
Name: Printer C
Description: This is a slow inkjet printer
Price: 70.0
Weight: 6.0

Machine: 4
Name: Printer D
Description: This is a fast inkjet printer
Price: 50.0
Weight: 7.0

Machine: 5
Name: Scanner A
Description: This is black and white scanner
Price: 70.0
Weight: 4.0

Machine: 6
Name: Scanner B
Description: This is a color scanner
Price: 80.0
Weight: 20.0

Machine: 7
Name: Scanner C
Description: This scanner is both color and black/white
Price: 250.0
Weight: 20.0

Machine: 8
Name: Smartphone A
Description: This smartphone has Marshmallow operating system
Price: 230.0
Weight: 0.4

Machine: 9
Name: Smartphone B
Description: This smartphone has KitKat operating system
Price: 240.0
Weight: 0.3

Machine: 10
Name: Smartphone C
Description: This smartphone has Jelly Bean operating system

Price: 235.0
Weight: 0.45

Include your code and a screenshot of the output