Exercise 5.1

```
/* Saket Bakshi. 10/25/18. Period 6
This program, for #1 of Ch 5, reads an integer and tells if it is positive,
negative, or zero.
*/
import java.util.Scanner;

public class PracticeExercisesCh5E1
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		int inputNumber;

		System.out.println("What's your number? "); //read in number
		inputNumber = key.nextInt();

		//tell if positive, negative, or 0
		if(inputNumber == 0)
			System.out.println("Your number is 0.");
		else if(inputNumber < 0)
			System.out.println("Your number is negative.");
		else if(inputNumber > 0)
			System.out.println("Your number is positive.");
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E1
What's your number?
0
Your number is 0.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E1
What's your number?
-3
Your number is negative.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E1
What's your number?
29837
Your number is positive.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket>
```

Exercise 5.5

```
/* Saket Bakshi. 10/25/18. Period 6
This program, for #5 of Ch 5, reads three numbers and tells if
they are in increasing, decreasing, or no order.
*/
```

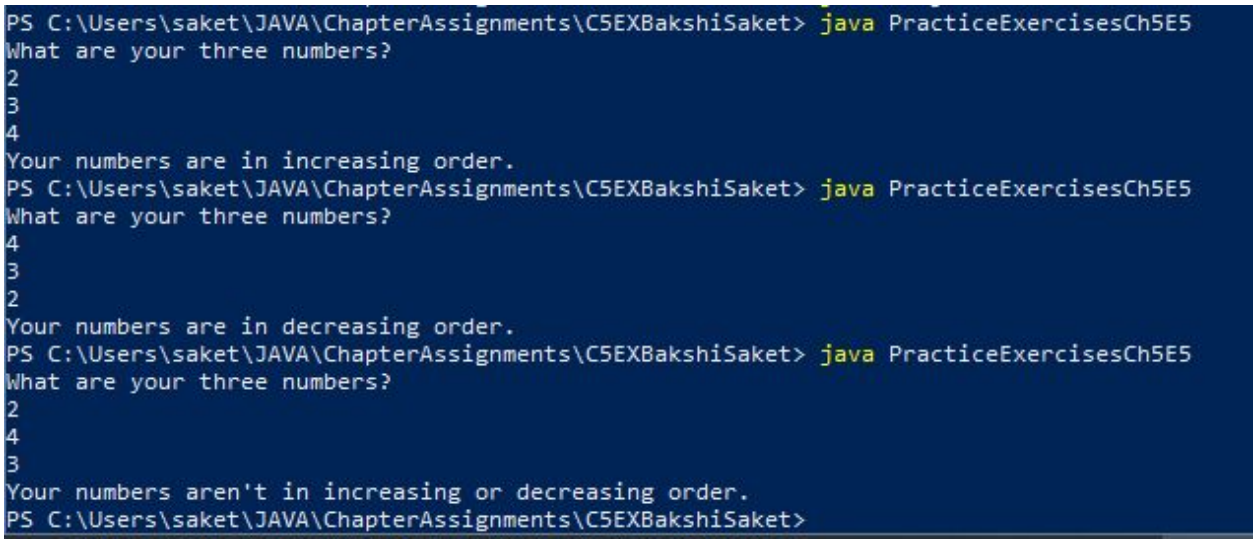
```
import java.util.Scanner;

public class PracticeExercisesCh5E5
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		int first, second, third;

		System.out.println("What are your three numbers?"); //asks for three numbers
		first = key.nextInt();
		second = key.nextInt();
		third = key.nextInt();

		//replies with order analysis
		if(first < second && second < third)
			System.out.println("Your numbers are in increasing order.");
		else if(third < second && second < first)
			System.out.println("Your numbers are in decreasing order.");
		else
			System.out.println("Your numbers aren't in increasing or decreasing
order.");
	}
}
```



Exercise 5.6
/* Saket Bakshi. 10/25/18. Period 6
This program, for #6 of Ch 5, reads three numbers and tells if

they are in increasing, decreasing, or no order. It also asks if order decisions should be strict or lenient, in that if
two numbers in a row are equal, strict would take away order denominations and lenient would let it go.
*/
```
import java.util.Scanner;

public class PracticeExercisesCh5E6
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		int first, second, third;

		System.out.println("What are your three numbers?"); //asks for three numbers
		first = key.nextInt();
		second = key.nextInt();
		third = key.nextInt();

		String reply;

		System.out.println("Do you want to be strict or lenient?");
		reply = key.next();

		if(!reply.equals("strict") && !reply.equals("lenient"))
		{
			do
			{
				System.out.println("Sorry, I didn't understand your reply. (Please reply with \"strict\" or \"lenient\")");
				reply = key.next();
			} while(!reply.equals("strict") && !reply.equals("lenient"));
		}


		if(reply.equals("strict"))
		{
			//replies with order analysis
			if(first < second && second < third)
				System.out.println("Your numbers are in increasing order.");
			else if(third < second && second < first)
				System.out.println("Your numbers are in decreasing order.");
```

```
                        else
                                System.out.println("Your numbers aren't in increasing or
decreasing order.");
                }
                else if(reply.equals("lenient"))
                {
                        if((first <= second && second < third) || (first < second && second <=
third))
                                System.out.println("Your numbers are in increasing order.");
                        else if((first >= second && second > third) || (first > second && second >=
third))
                                System.out.println("Your numbers are in decreasing order.");
                        else
                                System.out.println("Your numbers aren't in increasing or
decreasing order.");
                }
        }
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
3
2
2
Do you want to be strict or lenient?
lenient
Your numbers are in decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
1
3
2
Do you want to be strict or lenient?
strict
Your numbers aren't in increasing or decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
1
3
2
Do you want to be strict or lenient?
lenient
Your numbers aren't in increasing or decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
1
2
2
Do you want to be strict or lenient?
strit
Sorry, I didn't understand your reply. (Please reply with "strict" or "lenient")
strict
Your numbers aren't in increasing or decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
1
2
2
Do you want to be strict or lenient?
lenient
Your numbers are in increasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
3
2
1
Do you want to be strict or lenient?
strict
Your numbers are in decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
3
2
2
Do you want to be strict or lenient?
strict
Your numbers aren't in increasing or decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5E6
What are your three numbers?
3
2
2
Do you want to be strict or lenient?
lenient
Your numbers are in decreasing order.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket>
```

Project 5.2

```
/* Saket Bakshi. 10/25/18. Period 6
This project, for #2 of Ch 5, takes computes taxes for a specific schedule.
*/
import java.util.Scanner;

public class PracticeExercisesCh5P2
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		System.out.println("I am here to calculate your taxable income!");
		System.out.print("What is your marriage status? "); //asks for marriage status
		String status = key.next();

		if(!status.equals("married") && !status.equals("single")) //if neither married nor single are the reply, the program prompts for marriage status again
		{
			do
			{
				System.out.println("Sorry, I didn't understand your reply. (Please reply with \"married\" or \"single\")");
				status = key.next();
			} while(!status.equals("married") && !status.equals("single"));
		}

		System.out.print("\nHow much is your taxable income? ");
		int income, tax;
		income = key.nextInt();

		//decides tax bracket based on married or not
		if(status.equals("married"))
		{
			if(income >= 0 && income < 16000)
			{
				tax = (int)(0.1*income);
				System.out.println("Your taxable income is 10% of your income. This means you will be taxed $" + tax + ".");
			}
			else if(income >= 16000 && income <= 64000)
			{
				int tempIncome = income - 16000;
```

```
                                tax =(int)(1600 + (0.15*tempIncome));
                                System.out.println("Your taxable income is $1600 plus 15% of
your income over $16000. This means you will be taxed $" + tax + ".");
                        }
                        else if(income >= 64000)
                        {
                                int tempIncome = income - 64000;
                                tax =(int)(8800 + (0.25*tempIncome));
                                System.out.println("Your taxable income is $8800 plus 25% of
your income over $64000. This means you will be taxed $" + tax + ".");
                        }
                }
                else if(status.equals("single"))
                {
                        if(income >= 0 && income < 8000)
                        {
                                tax =(int)(0.1*income);
                                System.out.println("Your taxable income is 10% of your income.
This means you will be taxed $" + tax + ".");
                        }
                        else if(income >= 8000 && income <= 32000)
                        {
                                int tempIncome = income - 8000;
                                tax =(int)(800 + (0.15*tempIncome));
                                System.out.println("Your taxable income is $800 plus 15% of your
income over $8000. This means you will be taxed $" + tax + ".");
                        }
                        else if(income >= 32000)
                        {
                                int tempIncome = income - 32000;
                                tax =(int)(4400 + (0.25*tempIncome));
                                System.out.println("Your taxable income is $4400 plus 25% of
your income over $32000. This means you will be taxed $" + tax + ".");
                        }

                        //prints out taxable income and how it is calculated
                }
        }
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5P2
I am here to calculate your taxable income!
What is your marriage status? married

How much is your taxable income? 250000
Your taxable income is $8800 plus 25% of your income over $64000. This means you will be taxed $55300.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket> java PracticeExercisesCh5P2
I am here to calculate your taxable income!
What is your marriage status? divorced
Sorry, I didn't understand your reply. (Please reply with "married" or "single")
single

How much is your taxable income? 120000
Your taxable income is $4400 plus 25% of your income over $32000. This means you will be taxed $26400.
PS C:\Users\saket\JAVA\ChapterAssignments\C5EXBakshiSaket>
```