Exercise 6.1a

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #1a of Ch 6, calculates the sum of all even numbers between 2 and 100, inclusive.
*/
public class PracticeExercisesCh6E1a
{
	public static void main(String[] args)
	{
		int sum = 0;

		for(i = 2; i == 100; i + 2) //loop for all even numbers from 2 to 100
			sum = sum + i; //adds the even number to a separate integer

		System.out.println(sum);
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1
2550
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```

Exercise 6.1b

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #1b of Ch 6, calculates the sum of squares between 1 and 100, inclusive.
*/
public class PracticeExercisesCh6E1b
{
	public static void main(String[] args)
	{
		double sum = 0;
		for(int i = 1; i <=100; i++) //loop for all numbers between 1 and 100
			sum = sum + (Math.pow(i, 2)); //squares the loop number, adds it to an accumulating integer

		System.out.println((int)sum);
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1b
338350
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```

Exercise 6.1c

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #1c of Ch 6, calculates all the powers of 2 from 2^0 to 2^20.
*/
public class PracticeExercisesCh6E1c
{
	public static void main(String[] args)
	{
		for(int i = 0; i <= 20; i++) //all numbers from 0 to 20
			System.out.println((int)Math.pow(2, i)); //raises 2 to the loop number and
prints it
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1c
1
2
4
8
16
32
64
128
256
512
1024
2048
4096
8192
16384
32768
65536
131072
262144
524288
1048576
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```

Exercise 6.1d

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #1d of Ch 6, the sum of all odd numbers between a and b, inclusive, where a
and b are inputs.
*/
import java.util.Scanner;

public class PracticeExercisesCh6E1d
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		System.out.println("I'll calculate the sum of all odd numbers between two integers
you give.\nWhat are your numbers? ");
```

```
		int sum = 0;

		int a = key.nextInt();
		int b = key.nextInt();
		if(a % 2 == 0) //if a is even, the loop begins from a + 1 and adds two
		{
			if(b % 2 == 0) //if b is even, the loop ends before b
			{
				for(int i = a + 1; i < b; i = i + 2)
					sum = sum + i; //adds integer to the accumulating sum
			}
			else
			{
				for(int j = a + 1; j <= b; j = j + 2)
					sum = sum + j;
			}
		}
		else //if a is odd, the loop begins from a and adds two
		{
			if(b % 2 == 0)
			{
				for(int k = a; k < b; k = k + 2)
					sum = sum + k;
			}
			else //if b is odd, loop ends at b
			{
				for(int l = a; l <= b; l = l + 2)
					sum = sum + l;
			}
		}
		System.out.println(sum);
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1d
I'll calculate the sum of all odd numbers between two integers you give.
What are your numbers?
2
7
15
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```

Exercise 6.1e

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #1e of Ch 6, the sum of all odd digits in an input.
*/
import java.util.Scanner;

public class PracticeExercisesCh6E1e
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		System.out.println("Give me an integer.\nI'll find the sum of all the odd digits in the integer.");

		String integer = key.next(); //takes input as a String
		int answer = 0;

		for(int i = 0; i <= integer.length() - 1; i++)
		{
			String temp = integer.substring(i, i + 1); //goes through each character of the input, one at a time
			int tempInt = Integer.parseInt(temp);
			if(tempInt % 2 == 1) //checks to see if the character is odd
				answer = answer + tempInt; //adds the odd number to an accumulating sum
		}
		System.out.println("The answer is " + answer);
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1e
Give me an integer.
I'll find the sum of all the odd digits in the integer.
234234
The answer is 6
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6E1e
Give me an integer.
I'll find the sum of all the odd digits in the integer.
1234567890
The answer is 25
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```

Exercise 6.4

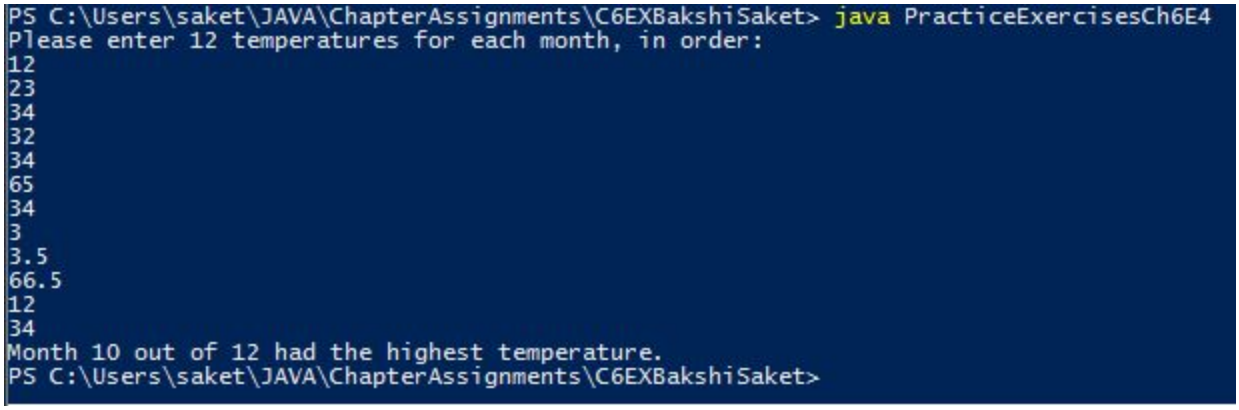
```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #4 of Ch 6, finishes the How To on page 276 of the textbook.
*/
import java.util.Scanner;

public class PracticeExercisesCh6E4
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);

		System.out.println("Please enter 12 temperatures for each month, in order:");
		double biggestTemperature = key.nextDouble(); //takes the first month
		int counter = 1; //sets month number to 1
		int biggest = 0;
		for(int i = 2; i <=12; i++)
		{
			counter++; //adds to month number

			double temp = key.nextDouble(); //takes next month's temp
			if(temp > biggestTemperature) //checks if next month is bigger than the
biggest temp so far
			{
				biggest = counter; //if the next month is bigger, its month number
is set as the biggest month
				biggestTemperature = temp;//also sets the temp as the new
biggest
			}

		}
		System.out.println("Month " + biggest + " out of 12 had the highest
temperature.");
	}
}
```

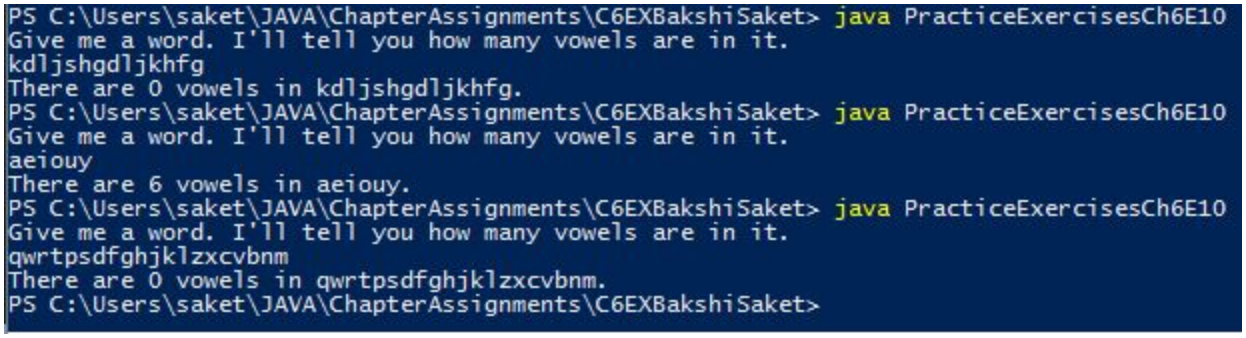


Exercise 6.10

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for #10 of Ch 6, reads and prints the number of vowels in a word, with "aeiouy"
considered vowels.
*/
import java.util.Scanner;

public class PracticeExercisesCh6E10
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);
		System.out.println("Give me a word. I'll tell you how many vowels are in it.");
		String input = key.next(); //takes in the word
		String word = input.toLowerCase(); //converts to lowercase

		int counter = 0;
		for(int i = 0; i < word.length(); i++)
		{
			String temp = word.substring(i, i + 1); //goes through each letter of the
word
			if(temp.equals("a") || temp.equals("e") || temp.equals("i") ||
temp.equals("o") || temp.equals("u") || temp.equals("y")) //checks to see if the letter is a vowel
				counter++; //if letter is a vowel, it adds to a counter that counts the
number of vowels
		}
		System.out.println("There are " + counter + " vowels in " + input + ".");
	}
}
```



Project 6.2

```
/* Saket Bakshi. 11/21/18. Period 6
This program, for Project 2 of Ch 6, reads an integer n and prints the nth Fibonacci number.
*/
import java.util.Scanner;

public class PracticeExercisesCh6P2
{
	public static void main(String[] args)
	{
		Scanner key = new Scanner(System.in);
		int integer, answer = 0;
		int fold1 = 1;
		int fold2 = 1;

		System.out.println("What number do you want from the Fibonacci sequence?");

		integer = key.nextInt();

		for(int i = 1; i <= integer - 2; i++) //does a loop for integer - 2 times
		{
			int temp = 0;
			temp = fold1 + fold2; //makes a variable equal sum of the two previous
numbers of the sequence
			fold1 = fold2; //makes the first number equal to the second
			fold2 = temp; //makes the second number equal to the sum
			answer = temp; //makes the answer equal to the current sum
		}
		System.out.println(answer);
	}
}
```

```
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6P2
What number do you want from the Fibonacci sequence?
5
5
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket> java PracticeExercisesCh6P2
What number do you want from the Fibonacci sequence?
7
13
PS C:\Users\saket\JAVA\ChapterAssignments\C6EXBakshiSaket>
```