Java Homework (Chapter 6)

6.2  
**import** java.util.Scanner;  
**public class** sumAllDigits {  
 **public static void** main(String[] Args){  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter an integer: "**);  
 **int** outp = input.nextInt();  
 System.***out***.print(**"The sum of all digits in integer "** + outp + **" is "** + *sumDigits*(outp));  
 }  
 **public static int** sumDigits(**int** num){  
 **int** sum = 0;  
 **while** (num != 0){  
 sum = sum + num % 10;  
 num /= 10;  
 }  
 **return** sum;  
 }  
}

6.3  
**import** java.util.Scanner;  
**public class** reverseNumberAndDeterPalindrome {  
 **public static void** main(String[] Args){  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter a integer: "**);  
 **int** num = input.nextInt();  
 **if** (*isPalindrome*(num))  
 System.***out***.print(num + **" is a palindrome"**);  
 **else** System.***out***.print(num + **" is not a palindrome"**);  
 }  
 **public static int** reverse(**int** number){  
 **int** rev = 0;  
 **while** (number != 0){  
 rev = rev \*10 + number % 10;  
 number /= 10;  
 }  
 **return** rev;  
 }  
 **public static boolean** isPalindrome(**int** number){  
 **if** (number == *reverse*(number))  
 **return true**;  
 **return false**;  
 }  
}

6.10

**public class** findPrimeNum {  
 **public static void** main(String[] Args) {  
 **int** numOfPrime = 0;  
 **for** (**int** i = 0; i < 10000; i++){  
 **if** (*isPrime*(i))  
 numOfPrime++;  
 }  
 System.***out***.print(**"The number of prime numbers less than 10000 is "** + numOfPrime);  
 }**public static boolean** isPrime(**int** number) {  
 **for** (**int** divisor = 2; divisor <= number / 2; divisor++) {  
 **if** (number % divisor == 0) { *// If true, number is not prime* **return false**; *// number is not a prime* }  
 }  
 **return true**;  
 }  
}

6.14

**public class** estimatePIE {  
 **public static void** main(String[] Args){  
 System.***out***.printf(**"%-5c%20s%n"**,**'i'**,**"m(i)"**);  
 System.***out***.print(**"---------------------------------"**);  
 **for** (**int** k = 1; k < 1000; k += 100){  
 **double** P = *m*(k);  
 System.***out***.printf(**"%n%-5d%22.4f"**,k,P);  
 }  
 }  
 **private static double** m(**int** i){  
 **double** resulting = 0;  
 **int** n = 1;  
 **while** (n <= i){  
 resulting += *getI*(n);  
 n++;  
 }  
 resulting \*= 4;  
 **return** resulting;  
 }  
 **private static double** getI(**int** in){  
 **double** re;  
 re = (Math.*pow*(-1, in+1)) / (2 \* in - 1);  
 **return** re;  
 }  
}

6.22

**import** java.util.Scanner;  
**public class** approximateSquareRoot {  
 **public static void** main(String[] Args){  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter a num to get it's square root: "**);  
 **long** inNum = input.nextLong();  
 System.***out***.print(**"The square root of "** + inNum + **" is "** + *sqrt*(inNum));  
 }  
 **public static double** sqrt(**long** n){  
 **double** lastGuess = 1;  
 **double** nextGuess = (lastGuess + n / lastGuess) / 2;  
 **while** (nextGuess - lastGuess > 0.0000000001 || lastGuess - nextGuess > 0.0000000001){  
 lastGuess = nextGuess;  
 nextGuess = (lastGuess + n / lastGuess) / 2;  
 }  
 **return** nextGuess;  
 }  
}