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package programmingassignment2;

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\*

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public class ProgrammingAssignment2 {

// 1. Triangle Pattern

public static void triangle(int m, int n){

if(m == 0){

return; // base case

}//if

if(m <= n){

for (int i = 0; i < m; i++){

System.out.print("\*");

}//for

System.out.println("");

triangle(m + 1, n); //pop when m == 6

for (int i = 0; i < m; i++) {

System.out.print("\*");

}//for

System.out.println("");

}//if

//implied return;

}//triangle

// 2. Section Numbers

public static void numbers(String prefix, int levels){

if(levels == 0){ // base case pops and prints the results of for loops

System.out.println(prefix);

}//if

else{

for(int c = 1; c <= 9; c++) {

numbers(prefix + c + ".", levels - 1); // pops after decrementatio

}//for

}//else

}//section numbers

// 3. A Teddy Bear Picnic

//

// Rules of Game.

// 1. if n is even, then you may give back exactly n/2 bears.

// 2. if n is divisibile by 3 or 4. then you may multiply the last two digits of n and give back

// this many bears. (the last digit of n is n%10, and the next-to-last digit is ((n%100)/100).

// 3. if n is divisible by 5, then you may give back exactly 42 bears.

// if(tb != 42) base case

public static boolean bears(int teddybears){

if(teddybears == 42)

return true; //base case. true 42 bears

if(teddybears > 42) {

if((teddybears % 5) == 0 && (teddybears -42 >= 42)){

return bears(teddybears - 42); //return 42

}//if divisible by 5

if((teddybears % 2 == 0) && ((teddybears / 2) >= 42)) {

return bears(teddybears / 2); //return half of the bears

}//if even

if((teddybears % 3 == 0 || teddybears % 4 == 0) && ((teddybears - (teddybears % 10) \* (teddybears % 100) / 10) >= 42)){

int pick = (teddybears % 100); // gets the last two digits

int digit1 = pick / 10; // gets the tens place

int digit2 = pick % 10; // get ones place

return bears(teddybears - (digit1 \* digit2)); // subtract the total

}// if divisible by 4

}//if

return false; //base case less than 42.

}//bears

// 4. Find Longest Character

public static void main(String[] args) {

// 1. Testing

triangle(3,5);

// 2. Section Numbers

numbers("String",3);

// 3. Bears Game

System.out.println("");

System.out.println(bears(250));

System.out.println(bears(42));

System.out.println(bears(84));

System.out.println(bears(53));

System.out.println(bears(41));

System.out.println(bears(854));

System.out.println(bears(1011));

//

}//main

}//class