**CMSC 113: Computer Science I**

**while Exercises**

For each problem below, write what the program would print to the window. You may find it useful to use a table to track the values of the variables in the programs.

|  |
| --- |
| count |
|  |

1. public class Counter

{

public static void main(String[] args)

{

int count = 0;

while(count < 5)

{  
 count = count + 1;

System.out.println(count);

}

}

}

1. public class ThatsOdd

{

|  |
| --- |
| a |
|  |

public static void main(String[] args)

{

int a = 255;

while(a > 0)

{

System.out.println(a);

a = a / 2;

}

}

}

1. public class BackAndForth

{

public static void main(String[] args)

|  |  |
| --- | --- |
| a | b |
|  |  |

{  
 int a = 0;

int b = 8;

while(b > 0)  
 {

if(a < 4)

{  
 a = a + b;

}  
 else

{

a = a – b;

}

b = b – 1;

System.out.println(a);

}

}

}

1. public class LoopLoop

{

|  |  |
| --- | --- |
| x | y |
|  |  |

public static void main(String[] args)

{  
 int x = 0;

int y = 0;

while(y < 3)

{

x = 0;

while(x < 3)

{  
 System.out.println(x + ", " + y);

x = x + 1;

}

y = y + 1;

}

}

}

1. Write a method (in Eclipse) that detects perfect numbers. A *perfect number* is the sum of its divisors.
2. Write a method (in Eclipse) that sums the digits of a number. Note that n % 10 is the last digit of n and n / 10 is just like n, but without its last digit.