Lab work – if statements and while loop

1. Write complete C++ program that does the following:
   a. Print the numbers from 1 to 100 to the screen, one number per line.
      
      1
      2
      3
      4
      ...

   b. Print the numbers from 1 to 100 to the screen, ten numbers per line.
      
      1 2 3 4 5 6 7 8 9 10
      11 12 13 14 15 16 17 18 19 20
      ...

   c. Print the even numbers from 1 to 100 to the screen, ten numbers per line.
      
      2 4 6 8 10 12 14 16 18 20
      22 24 26 28 30 32 34 36 38 40
      ...

2. Write a program that: (Use || and && to combine two condition checks in one statement)
   - Asks the user to enter an integer that is greater than 0 and less than 20
   - If the entered number is not within the range the program keeps on asking for a valid number
   - Otherwise the program prints a table converting miles to kilometers from 1 to the user entered number

   Ex:

   Enter an integer that is greater than 0 and less than 20: 22
   Enter an integer that is greater than 0 and less than 20: 10

<table>
<thead>
<tr>
<th>Miles</th>
<th>Kilometers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.609</td>
</tr>
<tr>
<td>2</td>
<td>3.218</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>10</td>
<td>16.090</td>
</tr>
</tbody>
</table>

   (Note: You can use tab \t to line up nicely)

3. Write a program to test whether a number is a prime number.
   (Hint: a prime number is not divisible by any number except 1 and itself, so you can use a counter starting from 2 and up to input number – 1, and test each counter number against the input number)