

# Computer Programming Skills Assessment

Here are three basic programming assignments to test your skill-level in computer programming. They are in the Processing programming language ([www.processing.org](http://www.processing.org)). Being able to complete these assignments indicates that you have the recommended *entry-level* for starting the course *Introduction to Programming*. Try them to discover if you find them *easy*, *difficult*, or *very hard*.

*These assignments **do not reflect the end-terms** of the course *Introduction to Programming*. They reflect the **recommended entry-level** for the course.*

## *“easy”*

Well done. You will probably do fine in our *Introduction to Programming* course, but you may learn many new things also.

## *“difficult”*

That’s OK. You may need to study hard in our course *Introduction to Programming*.

## *“very hard”*

Don’t panic. You are advised to prepare some more before you start our *Introduction to Programming* course.

## *X’s*

Write code that prints 20 lines, each with a sequence of “x” characters. The first line contains “x”, the second line “xx”, the third line “xxx”, etc. Use at least one *for()* statement in your code. The output should appear like this:

```
x
xx
xxx
xxxx
xxxxx
xxxxxx
...

```

*Use the **print()** function to print text in the “console area”, the black rectangle at the bottom of the Processing environment.*

## *Shifty the Circle*

Draw a single white circle on a grey canvas. When the mouse is pressed on the circle, then the circle shifts horizontal position. When the mouse is pressed on the circle again, then it shifts back to its original position, and so on. When the mouse is pressed outside the white circle, nothing happens.

*Use the function **ellipse(X, Y, 50, 50)** to draw a circle with diameter 50 at position (X,Y). The **mousePressed()** function detects mouse button presses. The **mouseX** and **mouseY** system variables tell you where the mouse pointer is. Use function **dist(mouseX, mouseY, X, Y)** to calculate the distance between the mouse pointer and point (X,Y).*

## *Select Numbers from an Array*

Write code that prints all numbers from an integer array that are 10 or larger. For example, if the integer array is,

```
int a[] = {2, 18, 19, 16, 1, 15, 13, 11, 4, 8};
```

then it should print the numbers 18, 19, 16, 15, 13, and 11.

***Good luck**, and enjoy the powers that computer programming can give you!*

*The Media Technology team  
Leiden University*