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Class 8
Java - While

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1 Exercises

1. Read the following solutions for the Fibonacci problem.

```
public static void main(String[] args) {
        int prev;
        int num = 0;
        int next = 1;

        while (num <= 1000) {
                System.out.println(num);

                prev = num;
                num = next;
                next = prev + num;
        }

        System.out.println("======================");
        ////////// Alternative solution \\\\\\\\\\\\

        int previousPrevious = 0;
        int previous = 1;
        int n = previousPrevious + previous;

        System.out.println(previousPrevious);
        System.out.println(previous);

        while(n <= 1000) {
                System.out.println(n);

                previousPrevious = previous;
                previous = n;
                n = previousPrevious + previous;
        }
}
```

   Now complete the following table with the values of the variables $prev$, num and $next$ at each iteration. And, finally, finish your own solution, if you have not done that yet.

Iteration	$prev$	num	$next$
1			
2			
3			
4			
5			
6			
7			

2. Write a program that reads the grades of ten students and print at the end the greatest note, the least note, the average note (arithmetic mean) and how many students passed ($grade \geq 7$).
3. Write a program that tells whether a number is prime or not. A prime number is a natural number greater than 1 that is only divisible by 1 and by itself.

2 References

- W3C Tutorial:
  - `https://www.w3schools.com/java/java_while_loop.asp`
- Extra Exercises: `https://www.w3schools.com/java/exercise.asp`
  - Java Loops
- Solutions: `https://github.com/wbombardellis/java-unterricht/tree/master/Programme/08`