Java - While

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Organization

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Java

While

- Play a musical note forever.

While

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```
while (true) {
    note.setMessage(ShortMessage.NOTE_ON, 0, 60, 100);
    rcvr.send(note, timeStamp);
    Thread.sleep(1000);
}
```

While

- Play a musical note 100 times .

While

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```
int count = 1;
while (count <= 100) {
    note.setMessage(ShortMessage.NOTE_ON, 0, 60, 100);
    rcvr.send(note, timeStamp);
    Thread.sleep(100);
    count + +;
}
```

While

- Play all musical notes ("supported by the computer").

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```
int freq = 0;
while (freq < 128) {
    note.setMessage(ShortMessage.NOTE_ON, 0, freq, 100);
    rcvr.send(note, timeStamp);
    Thread.sleep(100);
    freq + +;
}
```

Exercises

1 Write a program that prints all natural numbers up to 1000

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Java

Exercises

1 Write a program that prints all natural numbers up to 1000
2 Write a program that prints the Fibonacci sequence up to 1000. That is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...

Exercises

1. Write a program that prints all natural numbers up to 1000
2. Write a program that prints the Fibonacci sequence up to
   1000. That is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...
   - Tip: $F_0 = 0, F_1 = 1, F_n = F_{n-2} + F_{n-1}$, for $n > 1$

While Grammar Rules

while ($\langle$Boolean condition$\rangle$) {
    ...
}

Exercises

1. Write a program **using while** that reads the grades of ten students and print at the end the greatest grade, the least grade, the average (arithmetic mean) and how many students passed ($grade \geq 7$).

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1 Write a program **using while** that reads the grades of ten students and print at the end the greatest grade, the least grade, the average (arithmetic mean) and how many students passed ($grade \geq 7$).

2 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.

Summary

- While allows you to execute the same code several times
- Next Lesson: For

References

- W3C Tutorial:
    - https://www.w3schools.com/java/java_while_loop.asp
- Exercises:
  https://www.w3schools.com/java/exercise.asp
    - Java Loops