

Introdução à linguagem Python





Estrutura de decisão

```
5 if(condiçãoPrimaria):
6    print("Condição verdadeira")
7 elif(condiçãoSecundaria):
8    print("Condição secundaria verdadeira")
9 else:
10    print("Caso contrario")
```





```
temperatura = 26
18
   if(temperatura < 10):</pre>
        print("Frio")
20
   elif(temperatura > 25):
        print("Calor")
22
23 else:
24
        print("Normal")
```





```
13 for numero in range(1, 10):
14 print(numero)
15
```

```
12 for letra in "ABCD":
13 print(letra)
14
```





Usando o laço de repetição faça um programa que mostre a tabuada do 7

```
26 for numero in range(1, 11):
27  print(7, "x" ,numero, " = ", numero*7)
28
```





```
16 def minhaFuncao(parametro):
17 print(parametro)
18
19 minhaFuncao("Esse e o parametro da função")
20
```





Faça uma função que recebe um numero como parâmetro e mostra a tabuada do numero recebido

```
def minhaFuncao(parametro):
    for numero in range(1 , 11):
        print(parametro, "x" ,numero, " = ", parametro * numero)
    minhaFuncao(2)
18
```





Faça uma função que recebe uma idade como parâmetro e mostra se é major de idade ou não

```
23 def funcaoMaior(idade):
24    if(idade >= 18):
25         print("Maior de idade")
26    else:
27         print("Menor de idade")
28
29 funcaoMaior(20)
```





Faça uma função que recebe uma idade como parâmetro e mostra se é maior de idade ou não





```
1 arquivo = open("./meu_arquivo.txt", "w")
2 
3 arquivo.write("Meu primeiro arquivo criado com python")
4 arquivo.close()
5
```

```
6 arquivo = open("./meu_arquivo.txt", "r")
7 conteudo = arquivo.read()
8 print(conteudo)
```





Faça um programa que crie um arquivo e grave uma sequencia de nucleotídeos nesse arquivo

http://dontpad.com/bioevol/2019/seq





Faça um programa que crie um arquivo e grave uma sequencia de nucleotídeos nesse arquivo substituído o que não for "T" e "C" por "-"

http://dontpad.com/bioevol/2019/seq

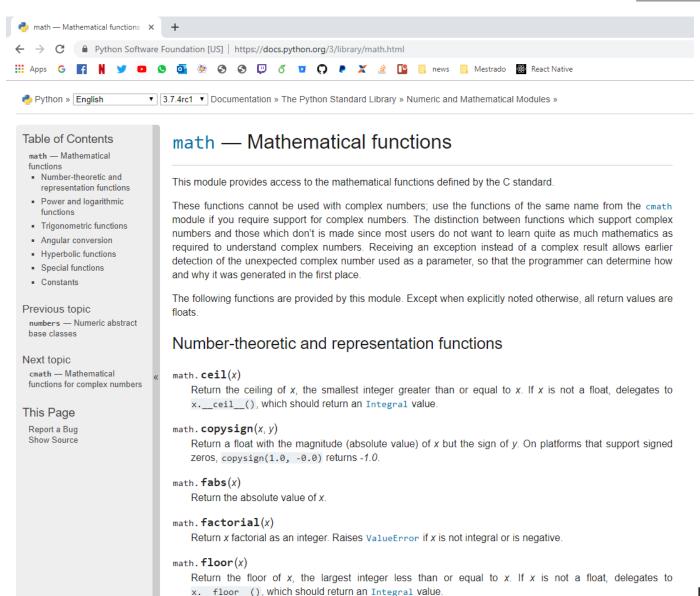


```
import math
raiz = math.sqrt(144)
print(raiz)
```



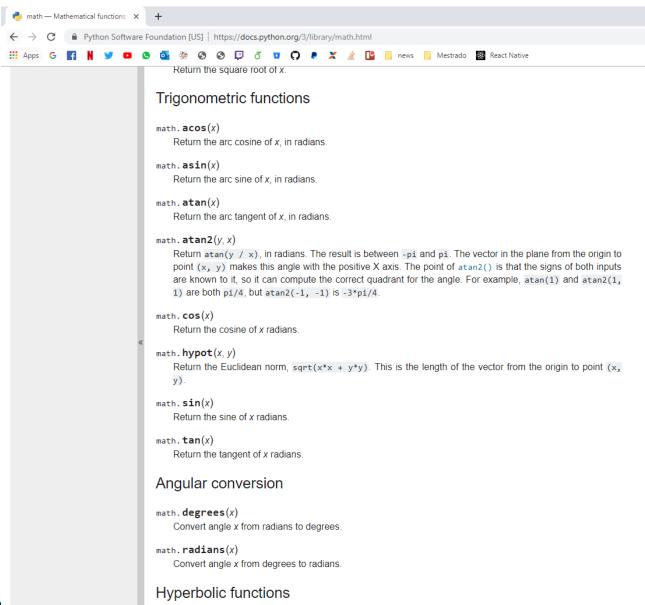


В





Prof. Renann Rodrigues







BioPython

BioPython é uma biblioteca para facilitar o desenvolvimento de aplicações para bioinformática utilizando a linguagem Python

Pagina: www.biopython.org

Criado por: Champman B, Chang J

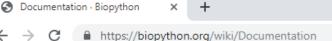
Surgiu em: 2000

Mantido por: Open Bioinformatics Foundation











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Scriptcentral

Source Code

GitHub project

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Biopython itself.

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The Biopython Tutorial and Cookbook contains the bulk of Biopython documentation. It
provides information to get you started with Biopython, in addition to specific documentation
on a number of modules

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 API documentation for Biopython modules is generated directly from source code comments using Epydoc.

HTML

- · Wiki documentation
 - Seq and SeqRecord objects
 - Bio.SeqIO sequence input/output
 - Bio.AlignIO alignment input/output
 - Bio.PopGen population genetics
 - Bio.PDB structural bioinformatics
 - Biopython's BioSQL interface
- Documentation for the Biopython interfaces to BioSQL cover installing Python database adaptors and basic usage of BioSQL.

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- · Cookbook-style documentation:
 - Cookbook documentation (on the wiki).
 - The Biopython Structural Bioinformatics FAQ (i.e. how to use the Bio.PDB module).

```
1 import Bio
```

```
1 from Bio.Seq import Seq
2
3 minha_primeira_seq = Seq("ATG")
4 print(minha_primeira_seq)
5
```





```
from Bio import SeqIO

for fasta in SeqIO.parse("fastaexemplo.fasta", "fasta"):
    print(fasta.id)
    print(fasta.seq)
```







FASTA -

Human 18S ribosomal RNA

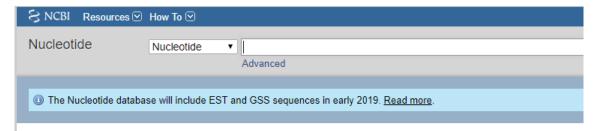
GenBank: X03205.1 GenBank Graphics

>X03205.1 Human 18S ribosomal RNA

ACTTGGATAACTGTGGTAATTCTAGAGCTAATACATGCCGACGGGCGCTGACCCCCTTCGCGGGGGGGAT CGGCTTTGGTGACTCTAGATAACCTCGGGCCGATCGCACGCCCCCGTGGCGGCGACGACCCATTCGAAC GTCTGCCCTATCAACTTTCGATGGTAGTCGCCGTGCCTACCATGGTGACCACGGGTGACGGGGAATCAGG CCACTCCCGACCCGGGGAGGTAGTGACGAAAAATAACAATACAGGACTCTTTCGAGGCCCTGTAATTGGA ATGAGTCCACTTTAAATCCTTTAACGAGGATCCATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAAT TCCAGCTCCAATAGCGTATATTAAAGTTGCTGCAGTTAAAAAGCTCGTAGTTGGATCTTGGGAGCGGGCG GGCGGTCCGCCGCGAGGCGAGCCACCGCCCGTCCCCGCCCCTTGCCTCTCGGCGCCCCCTCGATGCTCTT AGCTGAGTGTCCCGCGGGGCCCGAAGCGTTTACTTTGAAAAAATTAGAGTGTTCAAAGCAGGCCCGAGCC GCCTGGATACCGCAGCTAGGAATAATGGAATAGGACCGCGGTTCTATTTTGTTGGTTTTCGGAACTGAGG CCATGATTAAGAGGGACGGCCGGGGGCATTCGTATTGCGCCGCTAGAGGTGAAATTCTTGGACCGGCGCA AGACGGACCAGAGCGAAAGCATTTGCCAAGAATGTTTTCATTAATCAAGAACGAAAGTCGGAGGTTCGAA GACGATCAGATACCGTCGTAGTTCCGACCATAAACGATGCCGACCGGCGATGCGGCGCGTTATTCCCAT GACCCGCCGGCAGCTTCCGGGAAACCAAAGTCTTTGGGTTCCGGGGGGAGTATGGTTGCAAAGCTGAAA CTTAAAGGAATTGACGGAAGGGCACCACCAGGAGTGGAGCCTGCGGCTTAATTTGACTCAACACGGGAAA AACTAGTTACGCGACCCCGAGCGGTCGGCGTCCCCCAACTTCTTAGAGGGACAAGTGGCGTTCAGCCAC GCTCAGCGTGTGCCTACCCTACGCCGGCAGGCGCGGGTAACCCCGTTGAACCCCATTCGTGATGGGGATCG GGGATTGCAATTATTCCCCATGAACGAGGAATTCCCAGTAAGTGCGGGTCATAAGCTTGCGTTGATTAAG TCCCTGCCCTTTGTACACACCGCCCGTCGCTACTACCGATTGGATGGTTTAGTGAGGCCCTCGGATCGGC CCCGCCGGGGTCGGCCCACGGCCCTGGCGGAGCGCTGAGAAGACGGTCGAACTTGACTATCTAGAGGAAG TAAAAGTCGTAACAAGGTTTCCGTAGGTGAACCTGCGGAAGGATCATTA







FASTA ▼

Escherichia coli strain U 5/41 16S ribosomal RNA, partial sequence

NCBI Reference Sequence: NR_024570.1

GenBank Graphics

>NR 024570.1 Escherichia coli strain U 5/41 16S ribosomal RNA, partial sequence AGTTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAACACATGCAAGTCGAACGGTAACAGGAAG CAGCTTGCTGCTGACGAGTGGCGGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGA TAACTACTGGAAACGGTAGCTAATACCGCATAACGTCGCAAGCACAAAGAGGGGGACCTTAGGGCCTCTT GCCATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGGGGTAACGGCTCACCTAGGCGACGATCCCTAG CTGGTCTGAGAGGATGACCAGCAACACTGGAACTGAGACACGGTCCAGACTCCTACGGGAGGCAGCAGTG GGGAATATTGCACAATGGGCGCAAGCCTGATGCAGCCATGCNGCGTGTATGAAGAAGGCCTTCGGGTTGT AAAGTACTTTCAGCGGGGAGGAAGGGAGTAAAGTTAATACCTTTGCTCATTGACGTTACCCGCAGAAGAA GCACCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGGGC GTAAAGCGCACGCAGGCGGTTTGTTAAGTCAGATGTGAAATCCCCGGGCTCAACCTGGGAACTGCATCTG ATACTGGCAAGCTTGAGTCTCGTAGAGGGGGGTAGAATTCCAGGTGTAGCGGTGAAATGCGTAGAGATCT GGAGGAATACCGGTGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCGAAAGCGTGGGGAGC AAACAGGATTAGATACCCTGGTAGTCCACGCCGTAAACGATGTCGACTTGGAGGTTGTGCCCTTGAGGCG TGGCTTCCGGANNTAACGCGTTAAGTCGACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAATGAA TTGACGGGGGCCGCACAAGCGGTGGAGCATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCTGGTC TTGACATCCACGGAAGTTTTCAGAGATGAGAATGTGCCTTCGGGAACCGTGAGACAGGTGCTGCATGGCT GTCGTCAGCTCGTGTTGTGAAATGTTGGGTTAAGTCCCGCAACGAGCGCAACCCTTATCCTTTGTTGCCA GCGGTCCGGCCGGGAACTCAAAGGAGACTGCCAGTGATAAACTGGAGGAAGGTGGGGATGACGTCAAGTC ATCATGGCCCTTACGACCAGGGCTACACACGTGCTACAATGGCGCATACAAAGAGAAGCGACCTCGCGAG AGCAAGCGGACCTCATAAAGTGCGTCGTAGTCCGGATTGGAGTCTGCAACTCGACTCCATGAAGTCGGAA TCGCTAGTAATCGTGGATCAGAATGCCACGGTGAATACGTTCCCGGGCCTTGTACACACCGCCCGTCACA CCATGGGAGTGGGTTGCAAAAGAAGTAGGTAGCTTAACTTCGGGAGGGCG



