

Birkbeck University of London  
Bioinformatics and Systems Biology  
Biocomputing II

Group Project  
Documentation for DB API

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## dbapi.py

After meetings and agreements with the Business layer, I was asked to return only one function which I named **dict\_entries(a)**,

that takes only one parameter which is any accession, location, gene\_id or protein\_id (as it was a requirement) of the chromosome that the user wants

and using `try`, tries to return a dictionary where the keys are names of the 10 pieces of data I was asked from my team to parse from the GenBank file

```
keys =  
['accession', 'gene_bp', 'gene_id', 'location', 'dna_seq', 'cds', 'complement', 'protein_id', 'product', 'translation']
```

And values are the actual values of these 10 keys for each entry/gene that the user requests through the parameter.

In case the user's parameter is not correct, eg wrong accession number or location etc, then the function returns `False`

It returns a value as 'None' in case there is no info in the specific entry/gene, as it was described before.

A visual example (dummy data):

```
In [59]: dict_entries('AB007166')  
Out[59]:  
{'accession': 'AB007166',  
  'gene_bp': 745,  
  'gene_id': 'None',  
  'location': 'None',  
  'dna_seq':  
  'ccaatgactttgtcatgctgaaaggctgtgtggtgggaaccaagaagcgggtgctcacccctccgaaggtagggcaggtcctgacttg  
  tcatgggggggctctttagagggagggatccaaggccacagacgctggtggccctgtggtgggagaggaaaggaaggagaggggtgttg  
  cagtcctttcacactggcttgaagtcctgagatgaggaaattcccagtcctggccttgctgggctgtttgctgctttgagtggtcctc  
  atctgccggatggtgggggaggctgaattgatcgtgtggcttccagatgcaggggcgctgtgaacagtgctgaggaaagcctggctcc  
  tcgtaatcctaataccttcccccttggcccatagtccttgcctggtgcagacgaagcggcgggctctggagaagattgaccttaagtt  
  cattgacaccacctccaagtttggccatggccgcttccagaccatggaggagaagaaagcattcatggtgagcacctctgcctgcccc  
  ctgcctgggtgtggtggcttgggcagccgctgccttggctccagccgggtaggggtgggtcttgatgccttaggcctctcttgggc  
  tgggagactggccagagtccttggctcctctagagtgggcatctgctgtcaccgtgcacatcttctacctctgactactgcctctcc  
  ccacagggaccactgaagaaagaccgaattgcaa',  
  'cds': '(<1..68,392..511,718..>745)',  
  'complement': 'NO',  
  'protein_id': 'BAA25828.1',  
  'product': 'ribosomal protein L3',  
  'translation':  
  'NDFVMLKGCVVGTKKRVLTLRKSLLVQTKRRALEIDLKFIDTTSKFGHGRFQTMEKKAFMGPLKKDRIA'}
```