Programiz

Python Online Compiler

Programiz PRO

main.py | Output

```python
# Simple hydrophobicity checker

hydrophobic_amino_acids = ['A', 'V', 'I', 'L', 'M', 'F', 'W']

amino_acid = input("Enter a single amino acid (one letter code): ").upper()

if amino_acid in hydrophobic_amino_acids:
    print("The amino acid is Hydrophobic")
else:
    print("The amino acid is Hydrophilic")

# Count hydrophobic and hydrophilic amino acids

hydrophobic = ['A', 'V', 'I', 'L', 'M', 'F', 'W']

sequence = input("Enter protein
```

```
15
16  sequence = input("Enter protein
        sequence: ").upper()
17
18  hydrophobic_count = 0
19  hydrophilic_count = 0
20
21  for aa in sequence:
22      if aa in hydrophobic:
23          hydrophobic_count += 1
24      else:
25          hydrophilic_count += 1
26
27  print("\nTotal amino acids:", len
        (sequence))
28  print("Hydrophobic amino acids:",
        hydrophobic_count)
29  print("Hydrophilic amino acids:",
        hydrophilic_count)
30
31  # Calculate percentage of hydrophobic
        amino acids
32
33  hydrophobic = ['A', 'V', 'I', 'L', 'M'
```

```python
hydrophobic = ['A', 'V', 'I', 'L', 'M', 'F', 'W']

sequence = input("Enter protein sequence: ").upper()

hydro_count = 0

for aa in sequence:
    if aa in hydrophobic:
        hydro_count += 1

percentage = (hydro_count / len(sequence)) * 100

print("\nHydrophobic amino acids:", hydro_count)
print("Percentage of hydrophobic amino acids:", round(percentage, 2), "%")

if percentage > 50:
    print("Protein is mostly
```

```
35  sequence = input("Enter protein
        sequence: ").upper()
36
37  hydro_count = 0
38
39  for aa in sequence:
40      if aa in hydrophobic:
41          hydro_count += 1
42
43  percentage = (hydro_count / len
        (sequence)) * 100
44
45  print("\nHydrophobic amino acids:",
        hydro_count)
46  print("Percentage of hydrophobic amino
        acids:", round(percentage, 2), "%"
        )
47
48  if percentage > 50:
49      print("Protein is mostly
            Hydrophobic")
50  else:
51      print("Protein is mostly
            Hydrophilic")
```

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```
Enter a single amino acid (one letter code):
    L
The amino acid is Hydrophobic
Enter protein sequence: AILVFWDE

Total amino acids: 8
Hydrophobic amino acids: 6
Hydrophilic amino acids: 2
Enter protein sequence: AVILMFDD

Hydrophobic amino acids: 6
Percentage of hydrophobic amino acids: 75.0
    %
Protein is mostly Hydrophobic

=== Code Execution Successful ===
```