

Скрипт 1.

```
file_name = input()
result = {}
with open(file_name, mode='r') as file:
    lines = file.readlines()
    flag = False
    for line in lines:
        if line.startswith('>'):
            flag = True
        elif flag:
            key = line[0:3]
            result[key] = result.get(key, 0) + 1
            flag = False
sorted_results = sorted(result.items(), key=lambda x: x[1])
for key, value in sorted_results:
    print(f'{key} {value}')
```

Скрипт 2.

```
sequences = {}
current_sequence_name = None
codons_to_check = {"TAA", "TGA", "TAG"}
with open('sequence.txt', 'r') as file:
    for line in file:
        line = line.strip()
        if line.startswith('>'):
            current_sequence_name = line[1:].strip()
            sequences[current_sequence_name] = ""
        else:
            sequences[current_sequence_name] += line
with open('out.txt', mode='w') as file:
    for sequence_name, sequence in sequences.items():
        for i in range(0, len(sequence) - 3, 3):
            codon = sequence[i:i + 3]
            if codon in codons_to_check:
                file.write(sequence_name + '\n')
                break
```

Скрипт 3.

```
sequences = {}
current_sequence = ""
output = {}
with open(input(), mode='r') as cds:
    for line in cds:
        if line.startswith('>'):
            if current_sequence != "":
                codon = current_sequence[-3:]
                output[codon] = output.get(codon, 0) + 1
                current_sequence = ""
            else:
                current_sequence += line.strip()
```

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if current_sequence != "":
    codon = current_sequence[-3:]
    output[codon] = output.get(codon, 0) + 1

sorted_output = sorted(output.items(), key=lambda x: x[1])

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for count, codon in sorted_output:
    print(count, codon)

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Скрипт 4.

```

d = {}
d1 = {"TTA": 0, "CTA": 0, "CTG": 0, "TTG": 0, "CTC": 0, "CTT": 0}
filename = input()
with open('out4.txt', 'w') as out:
    with open(filename, 'r') as file:
        for line in file:
            line = line.strip()
            if line.startswith('>'):
                n = line[1:].strip()
                d[n] = ""
            else:
                d[n] += line
        for _, v in d.items():
            for c in range(0, len(v), 3):
                codon = v[c:c+3]
                if codon in d1:
                    d1[codon] += 1
        for codon, count in d1.items():
            print(codon, count, file=out)

```

Скрипт 5.

```

filename = input()
a1 = int(input())
a2 = int(input())
b = []
with open(filename, mode="r") as inp:
    for line in inp:
        if line[0] != ">":
            b += line.strip()
r = []
s = 0
aq = len(b) // a2
for j in range(aq):
    g = b[j * a2: (j * a2) + a1].count("G")
    c = b[j * a2: (j * a2) + a1].count("C")
    at = len(b[j * a2: (j * a2) + a1])
    if at == a1:
        s += (g - c) / (g + c)
        if (g + c) != 0:
            r.append(f'{j * a2} {(s):0.3f}')

```

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else:  
    r.append(f'j * a2 {0:0.3f}')
```

```
with open('out.txt', 'w') as f:  
    f.write("\n".join(map(str, r)) + "\n")
```

График.

