

```
In [39]: with open("./glo/loan2.txt", "r") as f:
         file_header = f.readlines()
```

```
In [40]: def parse_header(header_line):
         return file_header[0].strip().split(",")
```

```
In [41]: header = parse_header(file_header[0])
```

```
In [42]: header
```

```
Out[42]: ['amount', 'duration', 'rate', 'down_payment']
```

```
In [43]: def parse_data(data_lines):
         values = []
         for data in data_lines.strip().split(","):
             if data == "":
                 values.append(0.0)
             else:
                 values.append(float(data))
         return values
```

```
In [44]: value = parse_data(file_header[1])
```

```
In [45]: value
```

```
Out[45]: [100000.0, 36.0, 0.8, 20000.0]
```

```
In [46]: def data_dictionary(value, header):
         result = {}
         for valu, head in zip(value, header):
             result[head] = valu
         return result
```

```
In [47]: dataa_dictionary = data_dictionary(value, header)
```

```
In [48]: def read_csv(path):
         with open(path, "r") as f:
             result = []
             #files = f.readlines()
             header = parse_header(file_header[0])
             for data_lines in file_header[1:]:
                 value = parse_data(data_lines)
                 dataa_dictionary = data_dictionary(value, header)
                 result.append(dataa_dictionary)
         return result
```

```
In [49]: read_csv("./glo/loan1.txt")
```

```
Out[49]: [{'amount': 100000.0, 'duration': 36.0, 'rate': 0.8, 'down_payment': 20000.0},
{'amount': 200000.0, 'duration': 12.0, 'rate': 0.1, 'down_payment': 0.0},
{'amount': 628400.0,
'duration': 120.0,
'rate': 0.12,
'down_payment': 100000.0},
{'amount': 4637400.0, 'duration': 240.0, 'rate': 0.06, 'down_payment': 0.0},
{'amount': 42900.0, 'duration': 90.0, 'rate': 0.07, 'down_payment': 8900.0},
{'amount': 916000.0, 'duration': 16.0, 'rate': 0.13, 'down_payment': 0.0},
{'amount': 45230.0, 'duration': 48.0, 'rate': 0.08, 'down_payment': 4300.0},
{'amount': 991360.0, 'duration': 99.0, 'rate': 0.08, 'down_payment': 0.0},
{'amount': 423000.0, 'duration': 27.0, 'rate': 0.09, 'down_payment': 47200.0},
{'amount': 628400.0, 'duration': 120.0, 'rate': 0.12, 'down_payment': 1000.0},
{'amount': 62800.0, 'duration': 120.0, 'rate': 0.12, 'down_payment': 0.0},
{'amount': 628400.0, 'duration': 120.0, 'rate': 0.2, 'down_payment': 1000.0}]
```

```
In [50]: reading_csv = read_csv("./glo/loan1.txt")
```

```
In [51]: reading_csv
```

```
Out[51]: [{'amount': 100000.0, 'duration': 36.0, 'rate': 0.8, 'down_payment': 20000.0},
{'amount': 200000.0, 'duration': 12.0, 'rate': 0.1, 'down_payment': 0.0},
{'amount': 628400.0,
'duration': 120.0,
'rate': 0.12,
'down_payment': 100000.0},
{'amount': 4637400.0, 'duration': 240.0, 'rate': 0.06, 'down_payment': 0.0},
{'amount': 42900.0, 'duration': 90.0, 'rate': 0.07, 'down_payment': 8900.0},
{'amount': 916000.0, 'duration': 16.0, 'rate': 0.13, 'down_payment': 0.0},
{'amount': 45230.0, 'duration': 48.0, 'rate': 0.08, 'down_payment': 4300.0},
{'amount': 991360.0, 'duration': 99.0, 'rate': 0.08, 'down_payment': 0.0},
{'amount': 423000.0, 'duration': 27.0, 'rate': 0.09, 'down_payment': 47200.0},
{'amount': 628400.0, 'duration': 120.0, 'rate': 0.12, 'down_payment': 1000.0},
{'amount': 62800.0, 'duration': 120.0, 'rate': 0.12, 'down_payment': 0.0},
{'amount': 628400.0, 'duration': 120.0, 'rate': 0.2, 'down_payment': 1000.0}]
```

```
In [52]: import math
```

```
def loan_emi(amount, duration, rate, down_payment=0):
    loan_amount = amount - down_payment
    try:
        emi = loan_amount * rate * ((1 + rate) ** duration) / (((1 + rate) ** dur
    except zerodivisionerror:
        emi = loan_amount / duration
    emi = math.ceil(emi)
    return emi
```

```
In [53]: for loan in reading_csv:
          loan["emi"] = loan_emi(loan["amount"],
                                loan["duration"],
                                loan["rate"] / 12,
                                loan["down_payment"])
```

In [54]: reading_csv

```
Out[54]: [{'amount': 100000.0,
  'duration': 36.0,
  'rate': 0.8,
  'down_payment': 20000.0,
  'emi': 5913},
 {'amount': 200000.0,
  'duration': 12.0,
  'rate': 0.1,
  'down_payment': 0.0,
  'emi': 17584},
 {'amount': 628400.0,
  'duration': 120.0,
  'rate': 0.12,
  'down_payment': 100000.0,
  'emi': 7582},
 {'amount': 4637400.0,
  'duration': 240.0,
  'rate': 0.06,
  'down_payment': 0.0,
  'emi': 33224},
 {'amount': 42900.0,
  'duration': 90.0,
  'rate': 0.07,
  'down_payment': 8900.0,
  'emi': 487},
 {'amount': 916000.0,
  'duration': 16.0,
  'rate': 0.13,
  'down_payment': 0.0,
  'emi': 62664},
 {'amount': 45230.0,
  'duration': 48.0,
  'rate': 0.08,
  'down_payment': 4300.0,
  'emi': 1000},
 {'amount': 991360.0,
  'duration': 99.0,
  'rate': 0.08,
  'down_payment': 0.0,
  'emi': 13712},
 {'amount': 423000.0,
  'duration': 27.0,
  'rate': 0.09,
  'down_payment': 47200.0,
  'emi': 15428},
 {'amount': 628400.0,
  'duration': 120.0,
  'rate': 0.12,
  'down_payment': 1000.0,
  'emi': 9002},
 {'amount': 62800.0,
  'duration': 120.0,
  'rate': 0.12,
  'down_payment': 0.0,
  'emi': 901},
```

```
{'amount': 628400.0,  
'duration': 120.0,  
'rate': 0.2,  
'down_payment': 1000.0,  
'emi': 12125}]
```

```
In [37]: def write_csv(items, path):  
         with open(path, "w") as f:  
             if len(items) == 0:  
                 return  
             headers = list(items[0].keys())  
             f.write(",".join(headers) + "\n")  
             for item in items:  
                 values = []  
                 for header in headers:  
                     values.append(str(item.get(header, "")))  
                 f.write(",".join(values) + "\n")
```

```
In [38]: write_csv(reading_csv, "./glo/final1_txt")
```

```
In [ ]:
```