

age of the applicant	loan amount	credit score (1-8)
44	338100	4
51	13500	5
61	17000	3
65	417000	5
70	261550	3

Each row in the file represents a granted loan. The first column is the age of the loan applicant, the second column is the amount of the loan and the third column is the credit score of the applicant (1 to 8).

Feature #0 [50]: Your program will read the data from the file into 3 parallel arrays. The rest of the features operate on these arrays.

Feature #1 [50]: It prints the average age, credit score and loan amount over all loans in the dataset.

Feature #2 [60]: Check for high risk loans and report how many loans are high risk along with the sum of loan amounts over high risk loans. A loan is high risk if the risk factor of the loan is above 100000.

$$\text{Risk factor} = (\text{loan amount} / \text{credit score}) * \text{age factor}$$

age factor is 1.4 if applicant is less than 30 years old; 1.2 if less than 50 years old; 1.0 otherwise.

Feature #3 [60]: We can determine the likely amount of the loan a user will qualify by asking for user's age and credit score. Then we find the average loan amount among the similar loans in the data set. A loan is similar to the user if loan applicant's age is within 5 years of the user and credit score of the loan applicant is exactly the same as the credit score of the user.

Avoid Penalties

- Make sure that your program is properly indented and commented. [-50 penalty]
- Make sure each feature is in its own function. [-60 penalty]
- Reading the file should be in its own function. [-30 penalty]
- Make sure to use prototypes for your functions. [-20 penalty]

Your task is to write a program that will assist us in analyzing historical loans granted by our company for the last couple of years.

You should download the sample input file from blackboard.

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Mortgage Audit v2.0
=====
1- Summary Report
2- High Risk Loans
3- Simulate Loan
0- Exit
Your choice? 1
Average Age of Applicants: 51
Average Loan Amount: 239065
Average Score of Applicants: 4

Mortgage Audit v2.0
=====
1- Summary Report
2- High Risk Loans
3- Simulate Loan
0- Exit
Your choice? 2
Searching for high risk loans...
Found 94 high risk loans.
Total amount of high risk loans is $35455352.

Mortgage Audit v2.0
=====
1- Summary Report
2- High Risk Loans
3- Simulate Loan
0- Exit
Your choice? 3
Your age: 42
Your Credit Score (1-8): 5
Likely loan in the amount of $261109.

Mortgage Audit v2.0
=====
1- Summary Report
2- High Risk Loans
3- Simulate Loan
0- Exit
Your choice? 3
Your age: 25
Your Credit Score (1-8): 2
Likely loan in the amount of $178984.

Mortgage Audit v2.0
=====
1- Summary Report
2- High Risk Loans
3- Simulate Loan
0- Exit
Your choice? 3
Your age: 20
Your Credit Score (1-8): 0
Sorry we cannot estimate a loan amount for you.

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