

PRG281 Project
User Manual

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Contents

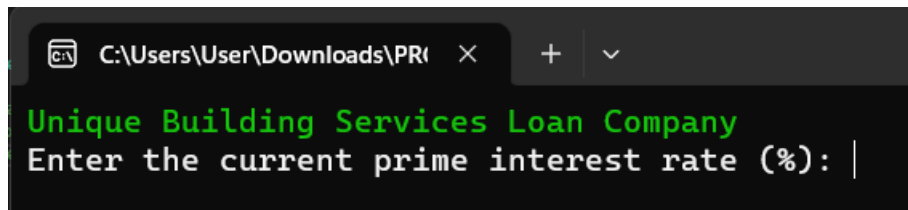
Table of Figures	1
Prime Rate	2
Prime Rate Validation.....	2
Creating the loans	3
Loan type validation.....	3
Last Name and first name validation	4
Last Name Validation	4
First Name Validation	5
Loan amount validation	6
Loan Term Validation	6
Loans Entered	6
Display loans	9

Table of Figures

Figure 1 Prime Rate.....	2
Figure 2 Prime Rate Validation.....	2
Figure 3 Prime Rate Validation Correction	2
Figure 4 Loan Type	3
Figure 5 Loan Type Choice	3
Figure 6 Loan Type Validation	3
Figure 7 Loan Number	4
Figure 8 Customer Last Name	4
Figure 9 Customer Last Name Validation	5
Figure 10 Customer First Name.....	5
Figure 11 Customer First Name Validation.....	5
Figure 12 Loan Amount.....	6
Figure 13 Loan Amount Validation	6
Figure 14 Loan Term.....	6
Figure 15 Loan 1.....	6
Figure 16 Loan 2.....	7
Figure 17 Loan 3.....	7
Figure 18 Loan 4.....	8
Figure 19 Loan 5.....	8
Figure 20 Loan Details Displayed.....	9
Figure 21 Loan Details Displayed Cont.	9

Prime Rate

When the C# application is run, the user is prompted to enter the prime interest rate. This will be used to determine the interest, which will be used to calculate the total amount owed from the loan. The prime interest rate will only be entered once (here at the beginning of the application).

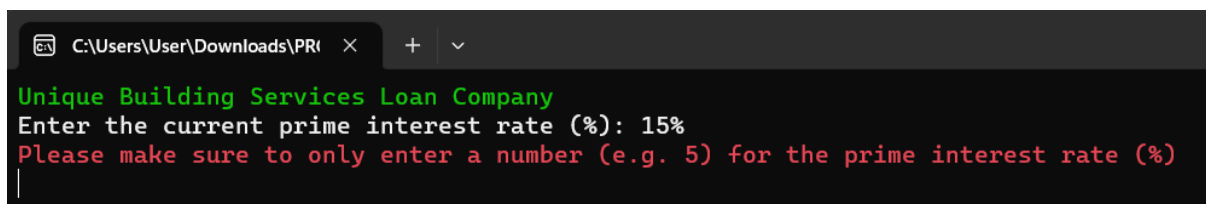


```
C:\Users\User\Downloads\PRi x + v
Unique Building Services Loan Company
Enter the current prime interest rate (%): |
```

Figure 1 Prime Rate

Prime Rate Validation

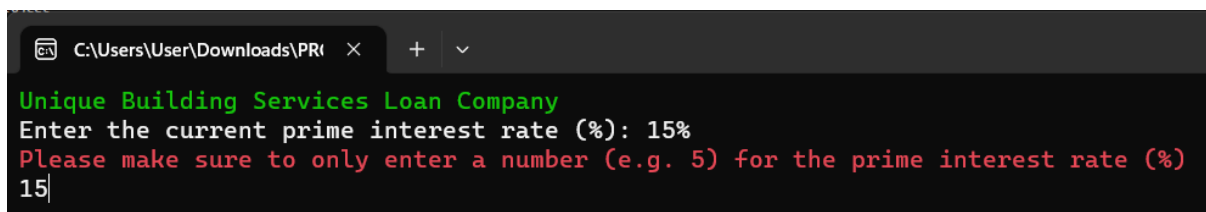
When the user enters the prime rate, it must just be the number. No special characters or letters must be included. Validation has been implemented to ensure that users only enter numbers. If the user enters anything that is not numbers, the following error message appears until the user enters a valid number.



```
C:\Users\User\Downloads\PRi x + v
Unique Building Services Loan Company
Enter the current prime interest rate (%): 15%
Please make sure to only enter a number (e.g. 5) for the prime interest rate (%)
|
```

Figure 2 Prime Rate Validation

The user can then enter a valid number:



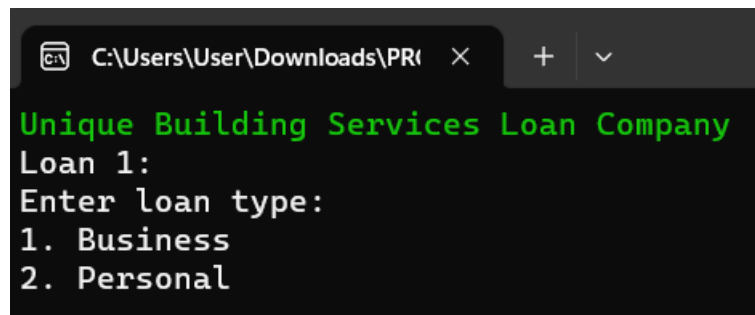
```
C:\Users\User\Downloads\PRi x + v
Unique Building Services Loan Company
Enter the current prime interest rate (%): 15%
Please make sure to only enter a number (e.g. 5) for the prime interest rate (%)
15|
```

Figure 3 Prime Rate Validation Correction

If the user enters a valid number, the console is cleared, and the user can start entering information about the loan.

Creating the loans

Users will be asked to enter the information for five loans. First, they will have to select a loan type, either a business loan or a personal loan.

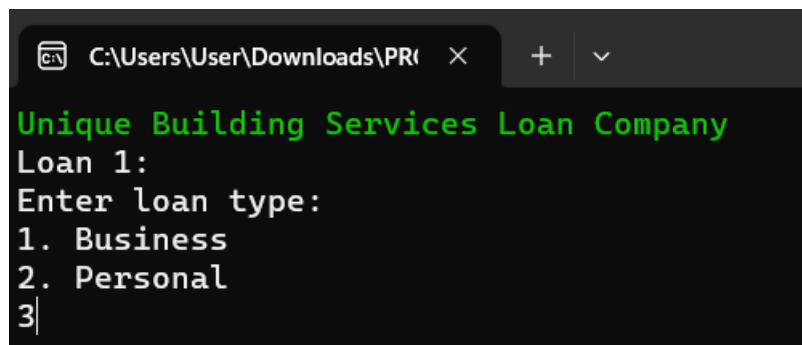


```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
```

Figure 4 Loan Type

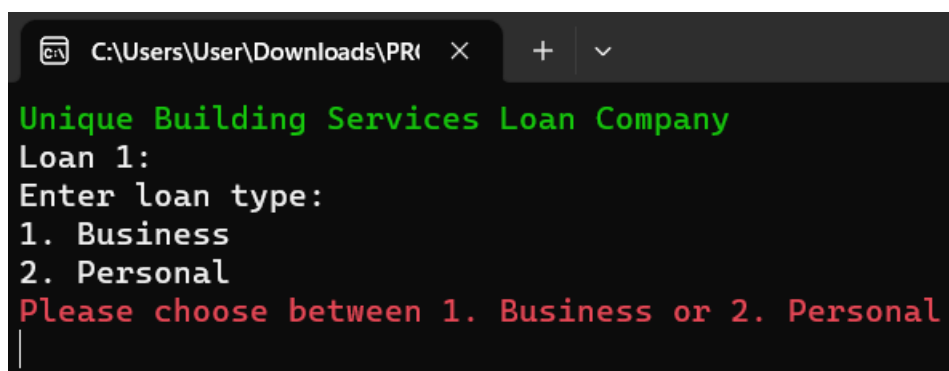
Loan type validation

The user must enter either number 1 or 2. If the user enters anything other than this, an error message will display asking for a valid choice until the user has entered either a 1 or 2.



```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
3|
```

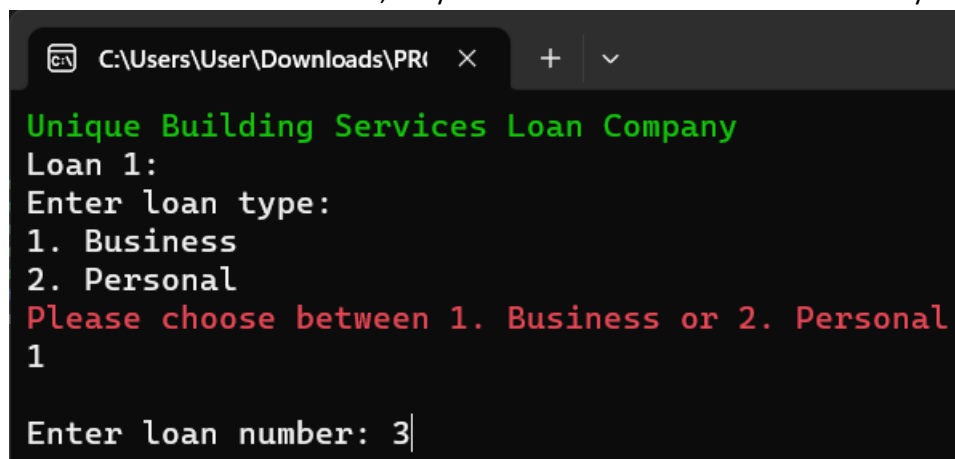
Figure 5 Loan Type Choice



```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
Please choose between 1. Business or 2. Personal
|
```

Figure 6 Loan Type Validation

Once the user has made a valid selection, they can enter other information such as the loan number, their last name and first name. Thereafter, they will need to enter the amount that they want to loan.



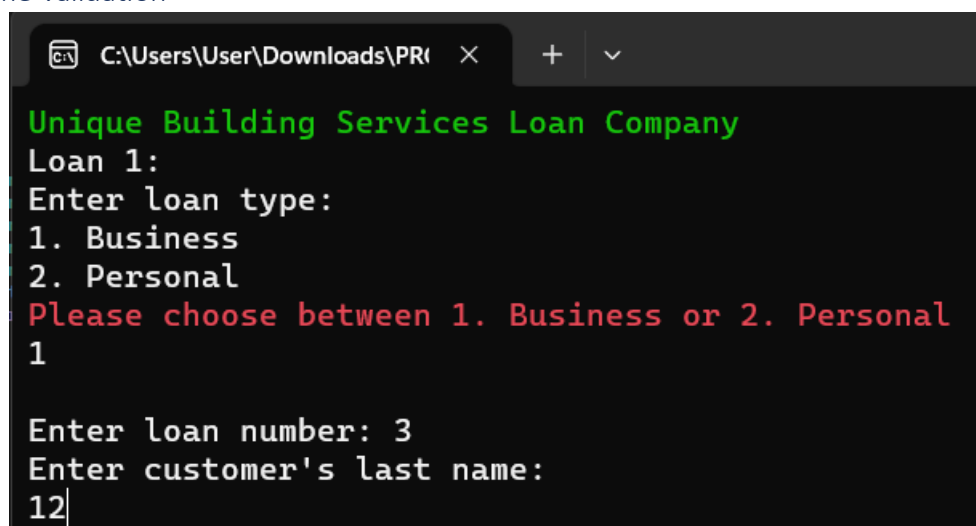
```
C:\Users\User\Downloads\PR...  
Unique Building Services Loan Company  
Loan 1:  
Enter loan type:  
1. Business  
2. Personal  
Please choose between 1. Business or 2. Personal  
1  
Enter loan number: 3|
```

Figure 7 Loan Number

Last Name and first name validation

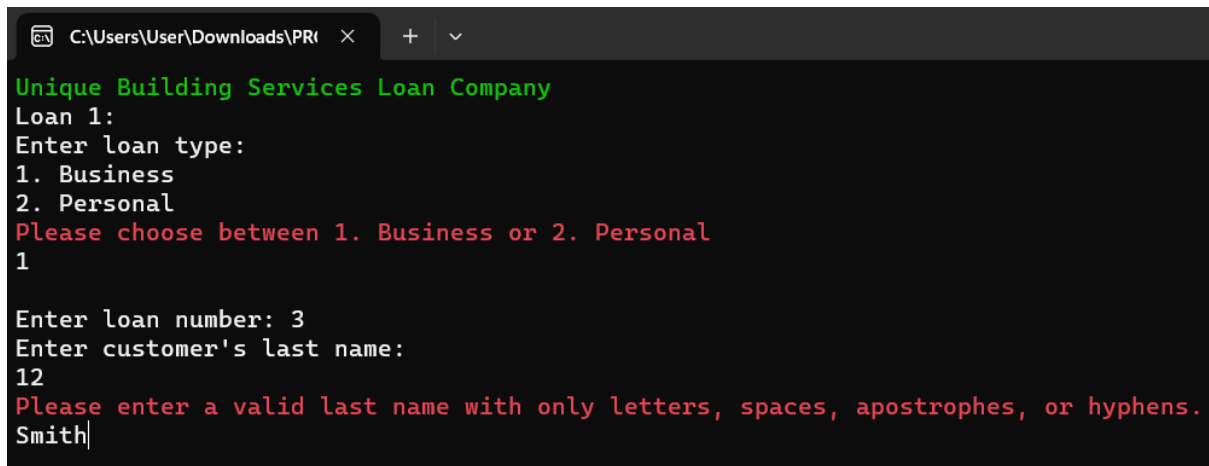
We validate the first and last name to only allow alphabet letters, spaces (for second names or some surnames), apostrophes or hyphens. If some text is entered which is not one of these options, the program will prompt the user to type in their first or last name that only contains those letters or characters and will only continue once the correct input has been received.

Last Name Validation



```
C:\Users\User\Downloads\PR...  
Unique Building Services Loan Company  
Loan 1:  
Enter loan type:  
1. Business  
2. Personal  
Please choose between 1. Business or 2. Personal  
1  
Enter loan number: 3  
Enter customer's last name:  
12|
```

Figure 8 Customer Last Name

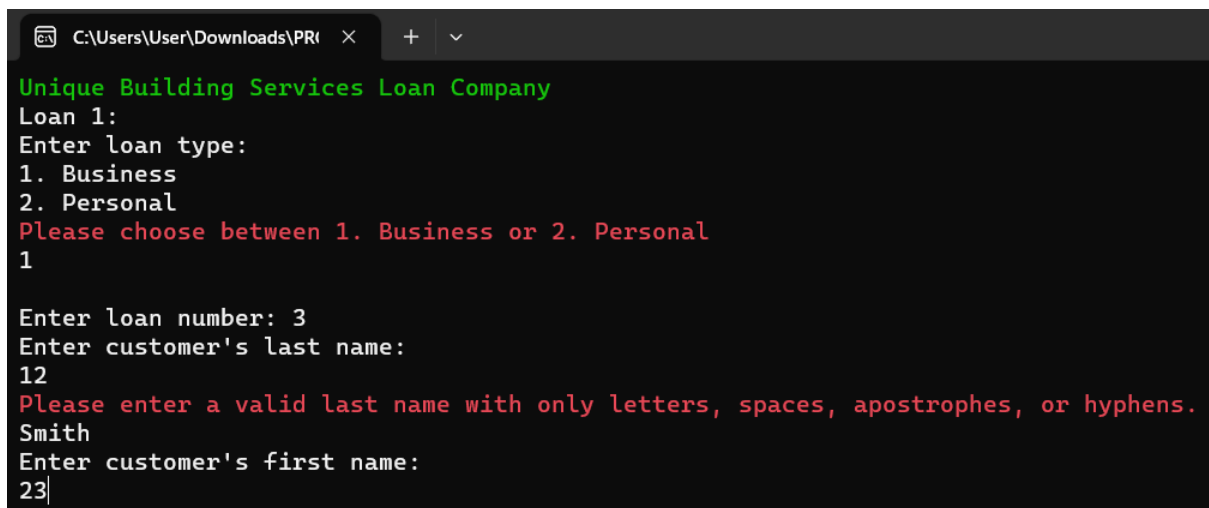


```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
Please choose between 1. Business or 2. Personal
1

Enter loan number: 3
Enter customer's last name:
12
Please enter a valid last name with only letters, spaces, apostrophes, or hyphens.
Smith|
```

Figure 9 Customer Last Name Validation

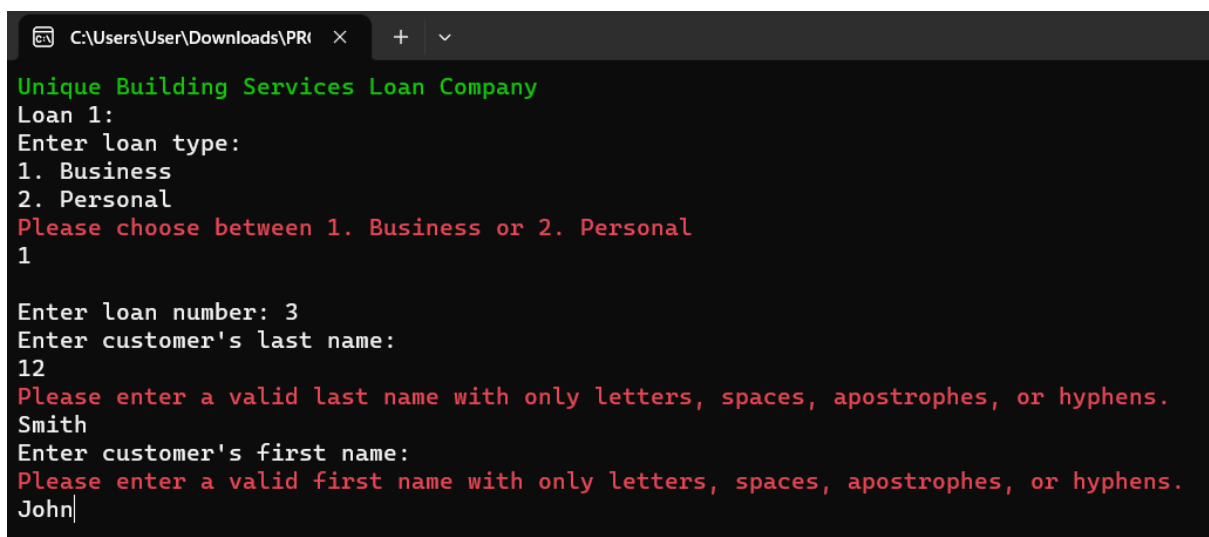
First Name Validation



```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
Please choose between 1. Business or 2. Personal
1

Enter loan number: 3
Enter customer's last name:
12
Please enter a valid last name with only letters, spaces, apostrophes, or hyphens.
Smith
Enter customer's first name:
23|
```

Figure 10 Customer First Name



```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
Please choose between 1. Business or 2. Personal
1

Enter loan number: 3
Enter customer's last name:
12
Please enter a valid last name with only letters, spaces, apostrophes, or hyphens.
Smith
Enter customer's first name:
John|
Please enter a valid first name with only letters, spaces, apostrophes, or hyphens.
```

Figure 11 Customer First Name Validation

Loan amount validation

If the user enters a loan amount of more than R100 000, an error message will appear as follows:

```
Enter loan amount:
200000000|
```

Figure 12 Loan Amount

```
Enter loan amount:
Please enter a loan amount between R1 and R100 000
23000|
```

Figure 13 Loan Amount Validation

This message will continue to appear until the user has entered a valid loan amount.

Loan Term Validation

Next, the user must select a loan term. This can either be a short term, which is one year, a medium term which is 3 years or long term which is 5 years.

In the case that the user does not enter a valid option, the program will default the term to short term.

```
Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
2|
```

Figure 14 Loan Term

Loans Entered

When a user has entered all the relevant information, the entire console will look as follows:

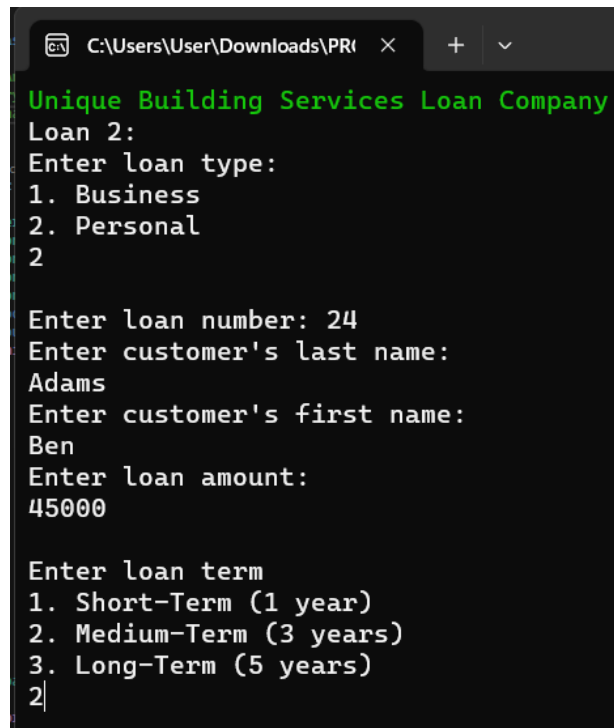
```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
Loan 1:
Enter loan type:
1. Business
2. Personal
Please choose between 1. Business or 2. Personal
1

Enter loan number: 3
Enter customer's last name:
12
Please enter a valid last name with only letters, spaces, apostrophes, or hyphens.
Smith
Enter customer's first name:
Please enter a valid first name with only letters, spaces, apostrophes, or hyphens.
John
Enter loan amount:
Please enter a loan amount between R1 and R100 000
23000

Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
2|
```

Figure 15 Loan 1

This process needs to be repeated until the information for 5 loans has been entered.

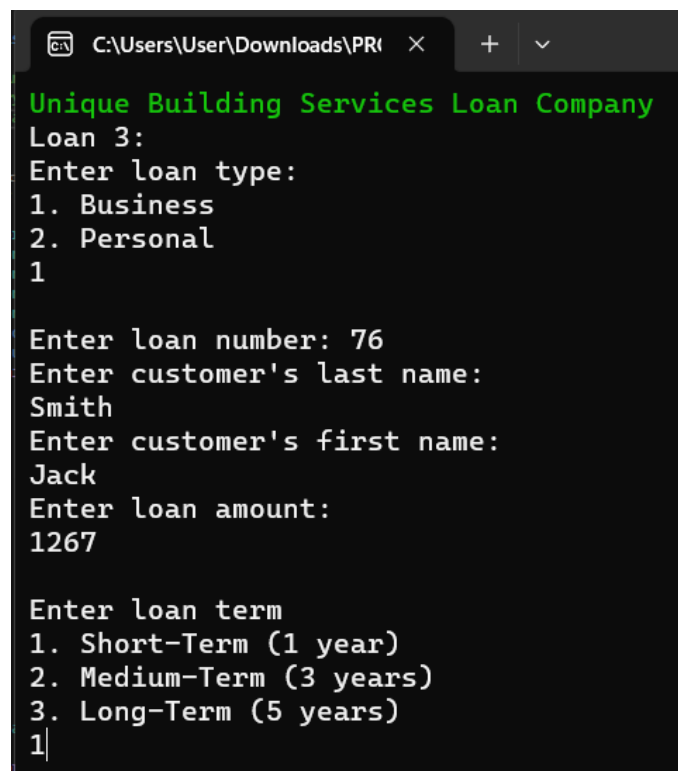


```
C:\Users\User\Downloads\PR... X + v
Unique Building Services Loan Company
Loan 2:
Enter loan type:
1. Business
2. Personal
2

Enter loan number: 24
Enter customer's last name:
Adams
Enter customer's first name:
Ben
Enter loan amount:
45000

Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
2|
```

Figure 16 Loan 2



```
C:\Users\User\Downloads\PR... X + v
Unique Building Services Loan Company
Loan 3:
Enter loan type:
1. Business
2. Personal
1

Enter loan number: 76
Enter customer's last name:
Smith
Enter customer's first name:
Jack
Enter loan amount:
1267

Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
1|
```

Figure 17 Loan 3


```
C:\Users\User\Downloads\PRi X + v
Unique Building Services Loan Company
Loan 4:
Enter loan type:
1. Business
2. Personal
2

Enter loan number: 56
Enter customer's last name:
James
Enter customer's first name:
Sally
Enter loan amount:
78321

Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
2|
```

Figure 18 Loan 4

```
C:\Users\User\Downloads\PRi X + v
Unique Building Services Loan Company
Loan 5:
Enter loan type:
1. Business
2. Personal
1

Enter loan number: 99
Enter customer's last name:
Black
Enter customer's first name:
John
Enter loan amount:
89222

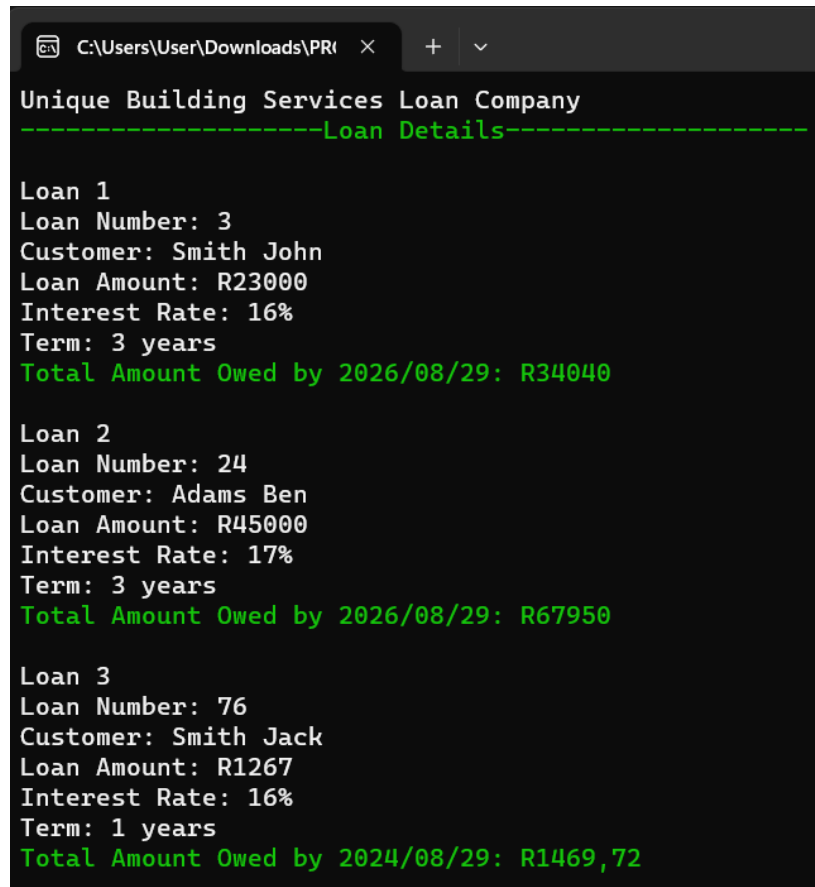
Enter loan term
1. Short-Term (1 year)
2. Medium-Term (3 years)
3. Long-Term (5 years)
3|
```

Figure 19 Loan 5

Display loans

Once the information for the five loans have been entered, the information for each loan is displayed. This includes all the data the user entered as well as the total amount that the user will owe based on the interest rate entered, term selected and type of loan that was chosen.

Furthermore, the due date at which the user must pay the loan back will be displayed.



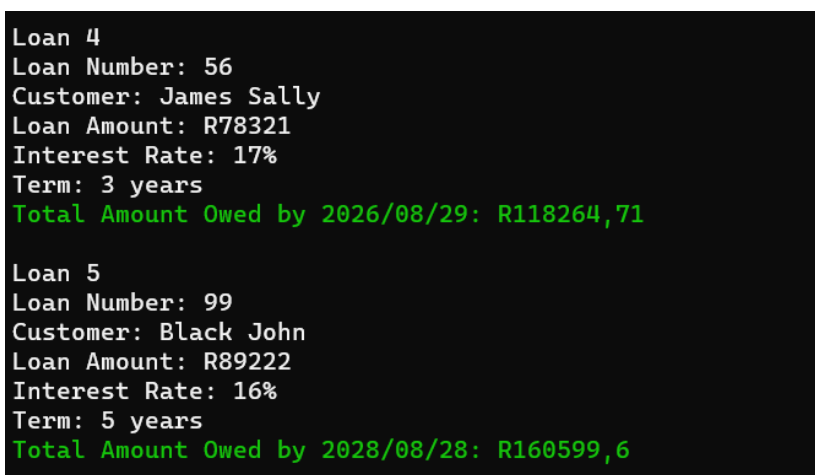
```
C:\Users\User\Downloads\PR... x + v
Unique Building Services Loan Company
-----Loan Details-----

Loan 1
Loan Number: 3
Customer: Smith John
Loan Amount: R23000
Interest Rate: 16%
Term: 3 years
Total Amount Owed by 2026/08/29: R34040

Loan 2
Loan Number: 24
Customer: Adams Ben
Loan Amount: R45000
Interest Rate: 17%
Term: 3 years
Total Amount Owed by 2026/08/29: R67950

Loan 3
Loan Number: 76
Customer: Smith Jack
Loan Amount: R1267
Interest Rate: 16%
Term: 1 years
Total Amount Owed by 2024/08/29: R1469,72
```

Figure 20 Loan Details Displayed



```
Loan 4
Loan Number: 56
Customer: James Sally
Loan Amount: R78321
Interest Rate: 17%
Term: 3 years
Total Amount Owed by 2026/08/29: R118264,71

Loan 5
Loan Number: 99
Customer: Black John
Loan Amount: R89222
Interest Rate: 16%
Term: 5 years
Total Amount Owed by 2028/08/28: R160599,6
```

Figure 21 Loan Details Displayed Cont.