

Welcome to BudgetPlanner  
An application that can be used for personal budget planning.

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#ApplicationName

BudgetPlanner

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#Version

V2.01

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#Description

BudgetPlanner is a C# Console Application created in Visual Studio 2019 Community, that allows a user to enter their monthly incomes and expenses and calculates their available monthly money. This application also calculates whether the user will be able to get a home loan or not as well as whether or not they will be able to get a car loan.

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## #App installation and start-up instructions

- Before using this application, ensure that the follow steps are completed:

Step 1: Ensure all files are unzipped

Step 2: Ensure that your .NETFramework is installed and on version V4.7.2

- If this is not installed proceed to the following link to download your .NETFramework:  
<https://dotnet.microsoft.com/en-us/download/dotnet-framework>

Step 3: Follow the guidelines on how to install .NETFramework and complete it

- Once these steps have been completed the following should be done to install your application:

Note: If you do not have Visual Studio 2019 Community installed on your device, follow these steps:

Step 1: Extract the folder 'BudgetPlanner' to your choice of file location

Step 2: Locate and Click on the folder called 'BudgetPlanner'

Step 3: Locate and Click on the folder called "bin"

Step 4: Locate and Click on the folder called "Debug"

Step 5: Click on the application called "BudgetPlanner" your application should therefore run

Note: If you already have Visual Studio 2019 Community installed on your device, follow these steps:

Step 1: Extract the folder 'BudgetPlanner' to your choice of file location

Step 2: To start off, Open Visual Studio and select the option to open an existing Visual Studio project.

Step 3: Select the 'BudgetPlanner' folder and open the "BudgetPlanner.sln" project.

Step 4: Once the project is open, run the program by pressing the green arrow/ start button.

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## #Build requirements

### – Hardware requirement

Specs of machine:

intel Core i3 Processors or above

2gb ram or ore

intel graphics

Windows 7 or above

### – Software requirement

.NETFramework v4.7.2

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## #Built with

Visual Studio 2019 Community

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## #How the application works

The application has 4 different prompt segments

- The first segment asks the user to enter their gross monthly income and as well as their monthly tax deducted.
- The second segment asks the user to enter all their monthly expenditures into the following categories: groceries, water and lights, travel costs (including petrol), phone costs and then if the user has any other expenses that have not yet been asked for, they are prompted to enter how many other expenses they have and then they are asked to enter the name of that expense and what the cost for that expense is.
- The third segment asks the user to choose whether they are renting accommodation or buying a property. If the user selects to rent, then the user is prompted to enter their monthly rental amount. If the user selects to buy a property, then they will be prompted to enter the purchase price of the property, the total deposit amount, the home loan interest rate as well as the number of months they have to repay the home loan. The home loan is then calculated and if the home loan repayment is more than a third of the user's gross monthly income, then a warning is displayed indicating that the home loan is unlikely.
- The fourth segment asks the user to choose whether they will be buying a vehicle or not. If the user selects to buy a vehicle, then they will be prompted to enter the make and model of the vehicle, the vehicle's purchase price, total deposit, vehicle loan interest rate as well as the estimated insurance plan premium for

the vehicle. Assuming that all cars will be repaid over a period of five years, the total monthly cost of buying the car is then calculated, by adding the insurance to the vehicle loan repayment.

If the total expenses, including the home and vehicle loans if the user has any, exceeds 75% of the net income, then the user is notified.

Once the relevant information has been provided, the application displays the user's expenses in descending order by value, their incomes and expenses are listed and the calculated amount of money left over for the month is displayed.

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#Examples of various scenarios with the BudgetPlanner App:

Figure 1 shows that the user chose to include 2 other expenses and since they are renting accommodation, they were prompted to enter their monthly rental amount.

Figure 1

```
*****
BUDGET PLANNER
*****
Enter your gross monthly income (before deductions): R10000
Enter your estimated monthly tax deducted: R1000
Enter your estimated monthly expenditure for groceries: R500
Enter your estimated monthly expenditure for water and lights: R500
Enter your estimated monthly expenditure for travel costs (including petrol): R250
Enter your estimated monthly expenditure for cell phone and telephone: R250

Do you have any other expenses? Enter *1* for YES or any other key for NO: 1

Enter how many other expenses you have: 2

Enter the name of your other expense: Hockey
Enter your estimated monthly expenditure for Hockey: R150

Enter the name of your other expense: Netball
Enter your estimated monthly expenditure for Netball: R150

Validating Inputted Data. . .
5      4      3      2      1
The inputted data is valid!

Enter *1* if you are renting accommodation or *2* for buying a property: 1
Enter your monthly rental amount: R1500,50

Loading Data. . .
3      2      1

*****
Information and totals:
*****
Your gross monthly income (before deductions) is R10000
Your estimated monthly tax deducted is R1000
Your estimated monthly expenditure for groceries is R500
Your estimated monthly expenditure for water and lights is R500
Your estimated monthly expenditure for travel costs (including petrol) is R250
Your estimated monthly expenditure for cell phone and telephone is R250
Your estimated monthly expenditure for Hockey is R150
Your estimated monthly expenditure for Netball is R150
Your estimated monthly housing payment is R1500,5
The total amount of available monthly money after all the specified deductions have been made: R5699,5

*****
Thank you for using Budget Planner
*****
```

Figure 2 shows that the user does not have any other expenses and since they are buying a property, they were prompted to enter the relevant information regarding paying back their home loan.

Figure 2

```
*****
BUDGET PLANNER
*****
Enter your gross monthly income (before deductions): R100000
Enter your estimated monthly tax deducted: R10000
Enter your estimated monthly expenditure for groceries: R500
Enter your estimated monthly expenditure for water and lights: R500
Enter your estimated monthly expenditure for travel costs (including petrol): R250,50
Enter your estimated monthly expenditure for cell phone and telephone: R350,50

Do you have any other expenses? Enter *1* for YES or any other key for NO: 0

Validating Inputted Data. . .
5      4      3      2      1
The inputted data is valid!

Enter *1* if you are renting accommodation or *2* for buying a property: 2
Enter the purchase price of your property: R50000
Enter the total deposit amount for your property: R10000
Enter the interest rate (percentage) for your property: 5
Enter the number of months (between 240 and 360) to repay your property: 250

Validating Home Loan Data. . .
5      4      3      2      1
The inputted home loan data is valid!

Loading Data. . .
3      2      1
*****
Information and totals:
*****
Your gross monthly income (before deductions) is R100000
Your estimated monthly tax deducted is R10000
Your estimated monthly expenditure for groceries is R500
Your estimated monthly expenditure for water and lights is R500
Your estimated monthly expenditure for travel costs (including petrol) is R250,50
Your estimated monthly expenditure for cell phone and telephone is R350,50
Your estimated monthly housing payment is R2160
The total amount of available monthly money after all the specified deductions have been made: R86239

*****
Thank you for using Budget Planner
*****
```

Figure 3 shows that the user does not have any other expenses and since they are buying a property, they were prompted to enter the relevant information regarding paying back their home loan, but this time, the loan is unlikely to be approved as the home loan repayment is more than a third of the user's gross monthly income and the user doesn't have any left over money.

Figure 3

```

BUDGET PLANNER
*****
Enter your gross monthly income (before deductions): R10000
Enter your estimated monthly tax deducted: R1000
Enter your estimated monthly expenditure for groceries: R500,50
Enter your estimated monthly expenditure for water and lights: R500
Enter your estimated monthly expenditure for travel costs (including petrol): R250
Enter your estimated monthly expenditure for cell phone and telephone: R250

Do you have any other expenses? Enter *1* for YES or any other key for NO: 4

Validating Inputted Data. . .
5 4 3 2 1

The inputted data is valid!

Enter *1* if you are renting accommodation or *2* for buying a property: 2
Enter the purchase price of your property: R10000000
Enter the total deposit amount for your property: R100
Enter the interest rate (percentage) for your property: 5
Enter the number of months (between 240 and 360) to repay your property: 245

Validating Home Loan Data. . .
5 4 3 2 1

The inputted home loan data is valid!

Warning!
Please note that the approval of your home loan is unlikely as the monthly repayments are more than a third of your gross monthly income!

Loading Data. . .
3 2 1

*****
Information and totals:
*****
Your gross monthly income (before deductions) is R10000
Your estimated monthly tax deducted is R1000
Your estimated monthly expenditure for groceries is R500,50
Your estimated monthly expenditure for water and lights is R500
Your estimated monthly expenditure for travel costs (including petrol) is R250
Your estimated monthly expenditure for cell phone and telephone is R250
Your estimated monthly housing payment is R5408157,86
There is no money left over after all the specified deductions have been made!
The amount that you are over by is: R5400658,36
*****

```

Figure 4, Figure 5 and Figure 6 shows some of the possible instances where the user enters invalid numbers so the app displays an error message and re-prompts the user for valid data.

Figure 4

```
*****
BUDGET PLANNER
*****
Enter your gross monthly income (before deductions): Rhjk
Enter your estimated monthly tax deducted: R212.5
Enter your estimated monthly expenditure for groceries: Rui
Enter your estimated monthly expenditure for water and lights: R423d
Enter your estimated monthly expenditure for travel costs (including petrol): R
Enter your estimated monthly expenditure for cell phone and telephone: R90

Do you have any other expenses? Enter *1* for YES or any other key for NO: 1

Enter how many other expenses you have: k

Error!
"k" is not a valid number!

Enter how many other expenses you have: 2

Enter the name of your other expense: hockey
Enter your estimated monthly expenditure for hockey: R20.78

Enter the name of your other expense: netball
Enter your estimated monthly expenditure for netball: Rds

Validating Inputted Data. . .

5      4      3      2      1

Error!
"hjk" is not a valid number!
Enter your gross monthly income (before deductions): R10000.90

Error!
Please use ',' instead of '.'!
Enter your gross monthly income (before deductions): R10000,90

Error!
Please use ',' in R212.5 instead of '.'!
Enter your estimated monthly tax deducted: R212,5

Error!
"ui" is not a valid number!
Enter your estimated monthly expenditure for groceries: R20

Error!
"423d" is not a valid number!
Enter your estimated monthly expenditure for water and lights: R10

Error!
"" is not a valid number!
```

Figure 5

```
Error!
"" is not a valid number!
Enter your estimated monthly expenditure for travel costs (including petrol): R30

Error!
Please use ',' in R20.78 instead of '.'!
Enter your estimated monthly expenditure for hockey: R20,78

Error!
"ds" is not a valid number!
Enter your estimated monthly expenditure for netball: R19

The inputted data is valid!

Enter *1* if you are renting accommodation or *2* for buying a property: hjs

Error! Invalid option.
Enter *1* if you are renting accommodation or *2* for buying a property: 89

Error! Invalid option.
Enter *1* if you are renting accommodation or *2* for buying a property: 2
Enter the purchase price of your property: Rj
Enter the total deposit amount for your property: R90.20
Enter the interest rate (percentage) for your property: 5
Enter the number of months (between 240 and 360) to repay your property: 100

Validating Home Loan Data. . .
5      4      3      2      1

Error!
"j" is not a valid number!
Enter the purchase price of your property: R10000

Error!
Please use ',' in R90.20 instead of '.'!
Enter the total deposit amount for your property: R90,20

Error!
"100" is not within the 240-360 range!
Enter the number of months (between 240 and 360) to repay your property: 400

Error!
"400" is not within the 240-360 range!
Enter the number of months (between 240 and 360) to repay your property: 290

The inputted home loan data is valid!

Loading Data. . .
3      2      1
```



Figure 6

```
3      2      1
*****
Information and totals:
*****
Your gross monthly income (before deductions) is R10000,90
Your estimated monthly tax deducted is R212,5
Your estimated monthly expenditure for groceries is R20
Your estimated monthly expenditure for water and lights is R10
Your estimated monthly expenditure for travel costs (including petrol) is R30
Your estimated monthly expenditure for cell phone and telephone is R90
Your estimated monthly expenditure for hockey is R20,78
Your estimated monthly expenditure for netball is R19
Your estimated monthly housing payment is R529,66
The total amount of available monthly money after all the specified deductions have been m
*****
Thank you for using Budget Planner
*****
```

Figure 7 shows that the user has the option to rerun the BudgetPlanner App.

Figure 7

```
*****
Thank you for using Budget Planner
*****
Would you like to use the Budget Planner app again?
Enter *1* for Yes or press any other key to exit: █
```

Figure 8 shows that the user has opted not to buy a vehicle. It shows the user's choice, the expenses in descending order with the monthly car amount being R0 and it shows the final output displayed if the user chose not to purchase a vehicle. It also shows the notification for when the total expenses do not exceed 75% of the user's net income, including loan repayments.

Figure 8

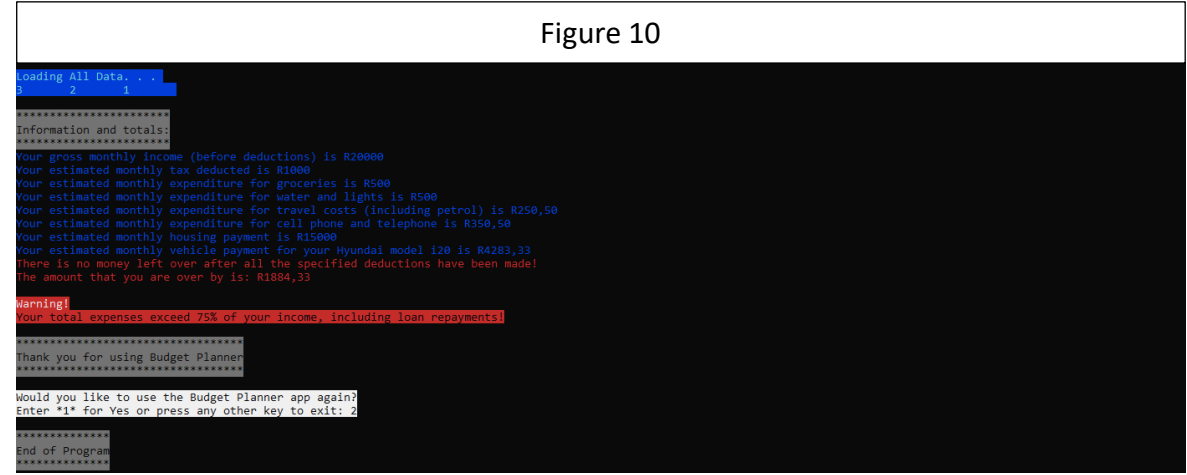
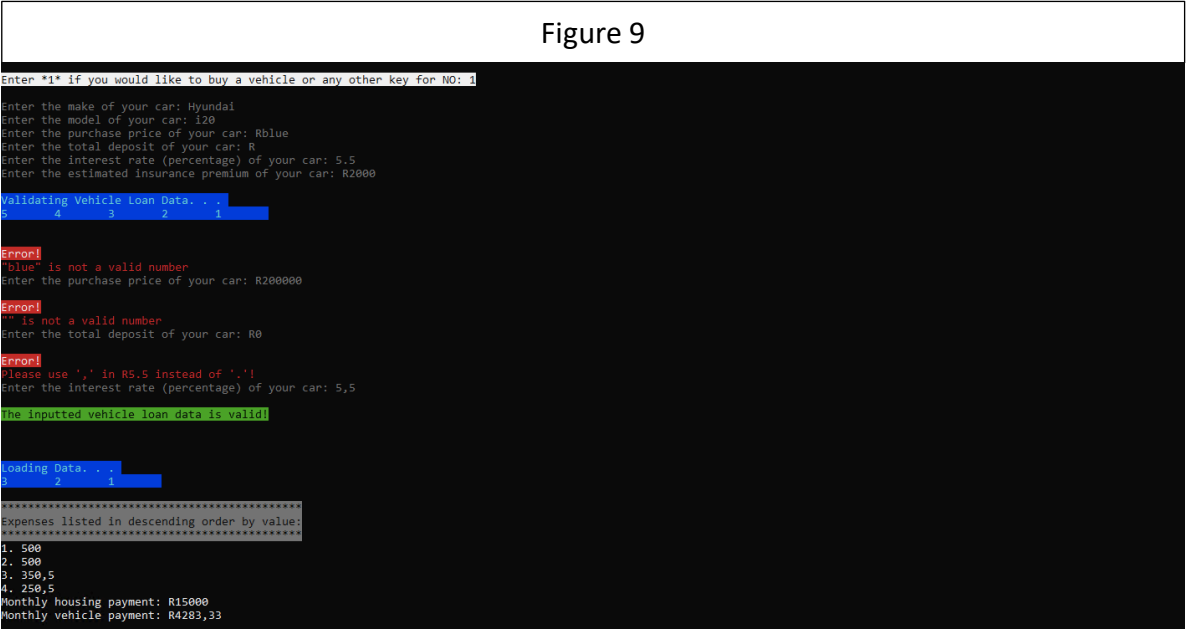
```
Enter *1* if you would like to buy a vehicle or any other key for NO: 2

Loading Data. . .
3      2      1
*****
Expenses listed in descending order by value:
*****
1. 500
2. 500
3. 350
4. 25,5
Monthly housing payment: R2160
You did not choose to purchase a vehicle, therefore estimated monthly vehicle payment is: R0

Loading All Data. . .
3      2      1
*****
Information and totals:
*****
Your gross monthly income (before deductions) is R100000
Your estimated monthly tax deducted is R10000
Your estimated monthly expenditure for groceries is R500
Your estimated monthly expenditure for water and lights is R500
Your estimated monthly expenditure for travel costs (including petrol) is R25,50
Your estimated monthly expenditure for cell phone and telephone is R350
Your estimated monthly housing payment is R2160
You chose the option not to purchase a vehicle and therefore estimated monthly vehicle payment is R0
The total amount of available monthly money after all the specified deductions have been made: R86464,5

Note:
Your total expenses are under 75% of your income, including loan repayments!
```

Figure 9 and Figure 10 show that the user has opted to buy a vehicle. They show the user's choice, getting invalid input from the user and then getting valid input, they show the user's expenses in descending order with the monthly car amount and they also show the final output displayed if the user chose to purchase a vehicle. They also show the notification for when the total expenses exceed 75% of the user's net income, including loan repayments.



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## #Troubleshooting

This application has been thoroughly tested to try and make sure that there are no possible errors or bugs during a user's experience. It is recommended that the system on which the user is running this application has all of the software requirements together with the correct project files.

If a problem still persists, try rebooting your system and run the application thereafter. If any errors or bugs unexpectedly occur after following all the necessary steps in this file, feel free to drop me an email at [ST10084382@vcconnect.edu.za](mailto:ST10084382@vcconnect.edu.za) to assist and improve your user experience.

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## #FAQ

Q: How many other expenses can I have?

A: As many you like! When the app asks you how many other expenses you have, specify the correct number of other expenses and then you can enter the name and amount for each additional expense.

Q: What is the repayment period for car loan?

A: The car repayment period is set to 5 years.

Q. Can I use this application on my MacBook?

A. Unfortunately not. This application has been built for machines that have Windows 7 or above.

Q: What happens if I enter an invalid number into the application?

A: The application will validate your data and check if any invalid numbers have been inputted. If it picks up that the data you have entered as invalid, you will simply be reprompted to input a valid number.

Q: What does the the following error message: "Please use ',' in R\_ instead of '.' !" mean?

A: This means that instead of using a fullstop '.' as the decimal point in your amount, you have to use a comma ','. For example: instead of 12.99 use 12,99.

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## #Contributions

Contributions are welcome. They can be sent via email to:

[ST10084382@vcconnect.edu.za](mailto:ST10084382@vcconnect.edu.za)

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## #Authors and Details

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GitHub Link to Repository:

[https://github.com/KeishMoon/ST10084382\\_PROG6221\\_POE.git](https://github.com/KeishMoon/ST10084382_PROG6221_POE.git)

GitHub link to KanBan Board for Task 1:

PROG6221 POE Task 1: <https://github.com/users/KeishMoon/projects/3>

GitHub link to KanBan Board for Task 2:

PROG6221 POE Task 2: <https://github.com/users/KeishMoon/projects/6>

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## #Last Edited

04 June 2022

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## #License

MIT License

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## #Code Attribution

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