```
Script started on 2023-10-07 06:46:42-05:00 [TERM="xterm" TTY="/dev/pts/1" COLUMNS=
mf98604@ares:~$ pwd
/home/students/mf98604
mf98604@ares:~$ cat budgetproj.info

Name: Philip May'r
Class: CSC121-001

Activity: What Goes Up, Must Keep Going Up...
         (Budget Program)

Level: 7

Description: Helps the user determine the next year's budget
             from the current year's budget and expenditures.

mf98604@ares:~$ show-code budgetproj.cpp


budgetproj.cpp:

     1  #include <iostream>
     2  #include <string>
     3  #include <cmath>
     4  #include <limits>
     5
     6  using namespace std;
     7
     8  constexpr streamsize INF_FLAG{numeric_limits<streamsize>::max()};
     9
    10  int main()
    11  {
    12      double budget_allotment, money_spent, money_spent_percentage;
    13
    14      char leading_currency_unit, trailing_currency_unit, yes_no;
    15
    16      bool invalid = true;
    17
    18      cout << "\n\t\tWelcome to the Budget Projection Program!!!\n";
    19
    20      while (tolower(yes_no) != 'n')
    21      {
    22          while (invalid)
    23          {
    24              budget_allotment = 0;
    25              leading_currency_unit = '\0';
    26              trailing_currency_unit = '\0';
    27              cout << "\nWhat was your budget allotment last year? ";
    28
    29              cin.clear();
    30
    31              cin >> ws;
    32              if (!isdigit(cin.peek()))
```
```
    33              {
    34                  cin >> leading_currency_unit;
    35              }
    36
    37              if (isdigit(cin.peek()))
    38              {
    39                  cin >> budget_allotment;
    40              }
    41
    42              while (cin.peek() != '\n' && isspace(cin.peek()))
    43              {
    44                  cin.ignore();
    45              }
    46
    47              if (!isdigit(cin.peek()) && cin.peek() != '\n')
    48              {
    49                  cin >> trailing_currency_unit;
    50              }
    51
    52              if (budget_allotment < 1)
    53              {
    54                  cin.ignore(INF_FLAG, '\n');
    55                  cout << "\n\nInvalid amount entered.\n\n";
    56              }
    57              else
    58              {
    59                  invalid = false;
    60              }
    61          }
    62
    63          invalid = true;
    64
    65          while (invalid)
    66          {
    67              money_spent = 0;
    68              leading_currency_unit = '\0';
    69              trailing_currency_unit = '\0';
    70
    71              cout << "How much did you spend last year? ";
    72
    73              cin.clear();
    74
    75              cin >> ws;
    76              if (!isdigit(cin.peek()))
    77              {
    78                  cin >> leading_currency_unit;
    79              }
    80
    81              if (isdigit(cin.peek()))
    82              {
    83                  cin >> money_spent;
    84              }
    85
    86              while (cin.peek() != '\n' && isspace(cin.peek()))
```

```cpp
 87                {
 88                    cin.ignore();
 89                }
 90
 91                if (!isdigit(cin.peek()) && cin.peek() != '\n')
 92                {
 93                    cin >> trailing_currency_unit;
 94                }
 95
 96                if (money_spent < 1)
 97                {
 98                    cin.ignore(INF_FLAG, '\n');
 99                    cout << "\n\nInvalid amount entered.\n\n";
100                }
101                else
102                {
103                    invalid = false;
104                }
105            }
106
107            invalid = true;
108
109            cout << "\nThank you!!  Calculating...  ";
110
111            money_spent_percentage = floor(((money_spent / budget_allotment)
112                                    * 100) + .5);
113
114            cout << "Done.";
115
116            cout << "\n\nLast year you used up approximately "
117                << money_spent_percentage << "% of your budget.";
118
119            cout.setf(ios_base::fixed);
120
121            cout.precision(2);
122
123            cout << "\n\nYour budget next year will be "
124                << leading_currency_unit << (floor(money_spent + 100) -
125                                    (fmod(money_spent, 100)))
126                << trailing_currency_unit << ".";
127
128            cout << "\n\nWould you like to repeat the program? Enter yes/no: ",
129
130            cin >> yes_no;
131            cin.ignore(INF_FLAG, '\n');
132    }
133        cout << "\nThank you for using the BPP!!"
134            << "\n\nEndeavour to have a prudential day!\n\n";
135  }
mf98604@ares:~$ CPP budgetproj
budgetproj.cpp***


mf98604@ares:~$ ./budgetproj.out
```

```
                    Welcome to the Budget Projection Program!!!

What was your budget allotment last year? 25000
How much did you spend last year? 23400

Thank you!!  Calculating...  Done.

Last year you used up approximately 94% of your budget.

Your budget next year will be 23500.00.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year? $50000
How much did you spend last year? $48700

Thank you!!  Calculating...  Done.

Last year you used up approximately 97.00% of your budget.

Your budget next year will be $48800.00.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year?    $98500$
How much did you spend last year?            $120000$

Thank you!!  Calculating...  Done.

Last year you used up approximately 122.00% of your budget.

Your budget next year will be $120100.00$.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year?    75000$
How much did you spend last year?            55425$

Thank you!!  Calculating...  Done.

Last year you used up approximately 74.00% of your budget.

Your budget next year will be 55500.00$.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year?    $84700
How much did you spend last year?            $69000

Thank you!!  Calculating...  Done.

Last year you used up approximately 81.00% of your budget.
```

Your budget next year will be $69100.00.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year? $200545
How much did you spend last year? $350598

Thank you!! Calculating... Done.

Last year you used up approximately 175.00% of your budget.

Your budget next year will be $350600.00.

Would you like to repeat the program? Enter yes/no: y

What was your budget allotment last year? $80000
How much did you spend last year? $77605

Thank you!! Calculating... Done.

Last year you used up approximately 97.00% of your budget.

Your budget next year will be $77700.00.

Would you like to repeat the program? Enter yes/no: n

Thank you for using the BPP!!

Endeavour to have a prudential day!

mf98604@ares:~$ exit
exit

Script done on 2023-10-07 06:51:00-05:00 [COMMAND_EXIT_CODE="0"]