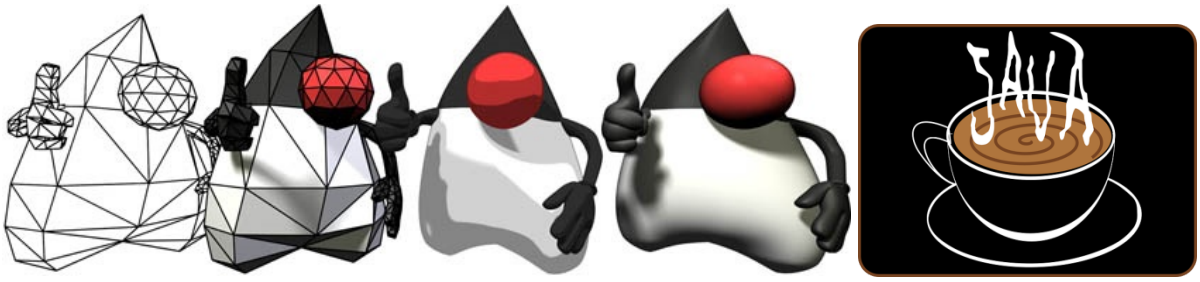
Java Assignment



Java Assignment 4: Array Practice Budget System

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Making a monthly budget can help a family gain a realistic idea of how much they can afford to spend in a given month. For this project, you will allow a user to input in their annual salary.

You will give the user a menu with 5 different options;
Display Sample Budget 1
Display Sample Budget 2
Enter Actual Budget
Display Actual Budget
Clear Actual Budget
Exit

You will figure out their monthly salary and allow them to input a series of categories followed by amounts. The first three budget categories and amounts for all budgets will be as follows;

Federal Income Tax	Use 12 % for all
NY State Income Tax	Use 6% for all
Social Security and Medicare	Use 7.5% for all

Other categories and amounts will be in actual dollars, not percentages.
NOTE: Please round off to the nearest DOLLAR, no cents for monthly budget amounts!!!!
Example;

Enter Choice
1-Display Sample Budget 1
2-Display Sample Budget 2
3-Enter Actual Budget
4-Display Actual Budget
5-Clear Actual Budget
6-Exit
7-Optional Load Budget From Disk
8-Optional Save Budget to Disk
9-Optional Pie Chart

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(NOTE: If a category is 30% or greater of the monthly salary, print * in front of the category name, if 20% or greater, print ** in front of the name, if 10%, print one * in front of the name. For < 10%, just print the category)**
Here is your sample budget for 4000 monthly

Item#	Amount	Item
1	480	*FIT
2	240	NYS
3	300	SS
4	1200	***Mortgage
5	500	*Food (thanks Nikita)
6	80	Auto Insurance
7	300	Auto Payment
8	200	Student Loan

9	**200**	**Investment**
10	**250**	**Heat/Electric**
11	**130**	**Cable/Phone/Internet**
12	**80**	**Mobile Phone**
13	**40**	**Misc**
14	**0**	**null**
15	**0**	**null**

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Here is your sample budget for 3000 monthly

Item#	**Amount**	**Item**
----	**---------**	**----**
1	**360**	***FIT**
2	**180**	**NYS**
3	**225**	**SS**
4	**750**	****Rent**
5	**500**	***Food**
6	**80**	**Auto Insurance**
7	**30**	**Dog Food**
8	**120**	**Entertainment**
9	**300**	***Savings**
10	**14**	**World of Warcraft**
11	**130**	**Cable/Phone/Internet**
12	**80**	**Mobile Phone**
13	**200**	**Auto Repair**
14	**69**	**Misc**
15	**0**	**null**

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Please enter annual salary->48000

Here is your monthly income -> 4000

FIT	**480**
NYS	**240**
SS	**300**

Amount Left: 2980

Please enter in a category to add or q to quit->
Mortgage
Please enter in an amount->
1200
Amount Left: 1780

Please enter in a category to add or q to quit->
Food
Please enter in an amount->
500

Amount Left: 1280

Please enter in a category to add or q to quit->
Auto Insurance
Please enter in an amount->
80

etc…

Please enter in a category to add or q to quit->
q

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Here is your budget for 4000 monthly

Item#	Amount	Item
----	**---------**	**----**
1	**480**	***FIT**
2	**240**	**NYS**
3	**300**	**SS**
4	**1200**	****Mortgage**
5	**500**	***Food**
6	**80**	**Auto Insurance**
7	**300**	**Auto Payment**
8	**150**	**Charity**
9	**200**	**Investment**
10	**250**	**Heat/Electric**
11	**130**	**Cable/Phone/Internet**
12	**80**	**Mobile Phone**
13	**90**	**Misc**
14	**0**	**null**
15	**0**	**null**

If the user chooses "clear", a redisplay of the budget would be

Here is your budget for 0 monthly

Item#	Amount	Item
----	**---------**	**----**
1	**0**	**null**
2	**0**	**null**
3	**0**	**null**
4	**0**	**null**
5	**0**	**null**
6	**0**	**null**
7	**0**	**null**

8	**0**	**null**
9	**0**	**null**
10	**0**	**null**
11	**0**	**null**
12	**0**	**null**
13	**0**	**null**
14	**0**	**null**
15	**0**	**null**

Use four arrays for the sample budgets. Two will hold the categories(Strings) and two will hold the amounts (doubles).

Use two arrays to store the category information for the budget. A String array for the category names and a double array for the category amounts. Fix the arrays at size 15.

To enter in the sample budget information, use the following technique

```
public static void main(String[ ] args) {

  String sampCat1[ ] = new String[15];  //declare an array of 15 Strings
  double sampAmt1[ ] = new double[15];  //declare an array of
doubles for amts

  sampCat1[0] = "Federal Income Tax";
  sampAmt1[0] = 480;
  //etc

while (true) {
    //Print out menu items and process user inputs
  System.out.println("1 = Display Sample Budget 1");
  System.out.println("2-Display Sample Budget 2");
  System.out.println("3-Enter Actual Budget");
  System.out.println("4-Display Actual Budget");
```

System.out.println("**5-Clear Actual Budget");**
System.out.println("**6-Exit");**

You can save the annual salary in a variable and then figure out the monthly salary to work with.

The first 3 items must be as they appear above and should be figured as a percentage of the monthly salary. Starting at the **4th** element in the array, allow the user to enter in a category name followed by an amount.

Then allow them to enter another until they either type in q to quit or reach 14 items. The last category will be **misc** and will have the remaining money available if any.

In order to loop through and ask the user to enter in data, try the following;

```
int item = 3;
while(item < 14) {  //reserve 14 for the Miscellaneous
        System.out.println("Enter category name or q to quit");
         input.skip("\n");
         String temp = input.nextLine();  //reads including spaces

       if(temp.equals("q")) {
              break;  //exits loop
       }
       //...more code here


}
```

When the person presses q or uses up 14 items, assign the **first unused budget** category to be misc and use the remaining amount of money available for the misc category.
If a user has less than 14 categories, just set the rest to amount 0 with no description

Print out a summary of the budget by printing all categories and amounts

BONUS: Using a graphical JFrame, display a pie chart with a key for each category. See the example program from Mr. Hanley's web site
Note: you must have all 360 degrees, can't round off and leave less

BONUS: Store the categories and the amounts into a text file. Add options on your menu to load the menu from the disk file into the array and save the array to a disk file. You may use budget1.txt as the name of your file

Project Name	Assign 4 – Family Budget
Class Name	Budget

Rubric	
Figures monthly income accurately	**15**
Figures FIT, State Tax and SS	**10**
Allows inputs up to 14 categories	**25**
Allows user to quit early	**10**
Prints budget accurately	**15**
Prints *, ** or * appropriately**	**5**
Assigns Misc to FIRST unused category	**10**
Clear actual amounts and cats	**10**
TOTAL	**100**
BONUS – pie chart	**15**
BONUS – saving/loading from file	**20**

Good Test Data for this project

12000 Annual Income

120.0	*FIT
60.0	NYS Tax
75.0	Social Security
50.0	a
50.0	b
50.0	c
50.0	d
50.0	e
50.0	f
50.0	g
50.0	h
50.0	i
50.0	j
50.0	k
195.0	*Misc

NOTE: Loop MUST break if the person already types in 11 values + taxes because their ALWAYS is a miscellaneous automagically assigned by the program!!!

12000 Annual Income
1000 Monthly

120.0	*FIT
60.0	NYS Tax
75.0	Social Security
350	***a
200	**b
100	*c
95	Misc