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# Problem Statement

**A bug collector collects bugs every day for seven days. Design a program that keeps a running total of the number of bugs collected during the seven days. The loop should ask for the number of bugs collected for each day, and when the loop is finished, the program should display the total number of bugs collected and the average number of bugs collected for each day.**

# Algorithm

1. Get the number of bugs for the day
2. Add number of bugs to total
3. Do Steps 1 & 2 six more times
4. Find the average number of bugs collected each day
5. Display the total bugs and average bugs collected for the week

# IPO Chart

Skipped for this problem

# Hierarchy Chart

Only one module, skipped for this problem

# Flowchart

## WHILE loop

# Pseudocode

## WHILE loop

// Program: In Class Chapter 5 - Page 229 - #1 MDoctor

// Author: Mark Doctor

// Course: iTech PM

void main ()

{

// day = 1

while (day <= 7)

{

DISPLAY "Please enter the number of bugs collected for day ", day;

INPUT numBugs;

SET totalBugs = totalBugs + numBugs;

SET day = day + 1;

}

SET avgBugs = totalBugs / 7;

DISPLAY "The total bugs collected over 7 days is: ", totalBugs;

DISPLAY "The average bugs collected each day is: ", avgBugs;

}

# Java Source Code

1 //Mark Doctor, 10/3/16, iTechPM Section 5: Assignment 5a  
 2 //Completed in class   
 3 //Purpose: Learn Repetition structures   
 4 //Filename: BugCollector.java  
 5 //Documentation: In Class Chapter 5 - P229 - #1 MDoctor.docx  
 6   
 7 import java.util.\*;  
 8 import java.text.\*;  
 9   
10 public class BugCollector  
11 {  
12 public static void main(String[] args)  
13 {  
14 //Variable declaration  
15 int day = 1;  
16 int totalBugs = 0;  
17 int numBugs;  
18 double avgBugs;  
19 Scanner kb = new Scanner(System.in);  
20 DecimalFormat df = new DecimalFormat("#.00");  
21   
22 //While loop to get bugs collected each day  
23 while (day <= 7)  
24 {  
25 System.out.println("Please enter the number of bugs collected for day " + day);  
26 numBugs = kb.nextInt();  
27 totalBugs += numBugs;  
28 day++;  
29 }  
30   
31 //Calculate average bugs and display totals  
32 avgBugs = (double)totalBugs / 7;  
33 System.out.println("The total bugs collected over 7 days is: " + totalBugs);  
34 System.out.println("the average bugs collected each day is: " + df.format(avgBugs));  
35   
36 }//end of main  
37 }//end of class  
38   
39 /\*  
40  ----jGRASP exec: java BugCollector  
41 Please enter the number of bugs collected for day 1  
42 5  
43 Please enter the number of bugs collected for day 2  
44 5  
45 Please enter the number of bugs collected for day 3  
46 5  
47 Please enter the number of bugs collected for day 4  
48 5  
49 Please enter the number of bugs collected for day 5  
50 5  
51 Please enter the number of bugs collected for day 6  
52 5  
53 Please enter the number of bugs collected for day 7  
54 5  
55 The total bugs collected over 7 days is: 35  
56 the average bugs collected each day is: 5.00  
57   
58  ----jGRASP: operation complete.  
59   
60 \*/