

Question 1 Single Item Processing 25%

Write a goal setter program to help encourage walkers increase their daily step count. The walkers are classified as either Beginners, Advance or Professional. The initial daily goal for each category is as follows:

Classification	Step Count Goal
Beginner	10,000
Advanced	15,000
Professional	22,000

The program should ask for

- the walkers name
- their classification : Beginner, Advanced or Professional
- the number of steps walked today.

The program will then print a message evaluating how the walker did and respond according to whether they achieved or were close to achieving their target. If their goal is achieved the program will congratulate them, print out

- their category, goal and the excess of steps above their goal they have walked
- the excess as a percentage of their goal
- Print "Well done"

If they are within 1,000 steps of achieving their goal the print out

- their category, goal and the shortfall of steps
- the shortfall as a percentage of their goal.
- Print a comment saying "Nearly there"

If they are more than 1000 steps below then print their goal, print their category goal and a message : "Please team up with a buddy next week and try again"

Sample Run 1

```
Enter Name : Wendy
Type of Walker (1. Beginner 2. Advanced 3. Professional): 1
No. of Steps today: 12000
Beginner goal of 10,000 steps.
You exceeded goal by 2,000 steps. (+ 16.67%)
Well Done.
```

Sample Run 2

```
Enter Name: Billy
Type of Walker (1. Beginner 2. Advanced 3. Professional): 3
No. of Steps today: 21900
Pro goal of 22,000 steps
You were 100 steps short of your goal. (- .45%)
Nearly there.
```

Question 2 Processing Multiple Items 30%

Modify the program to accept details for multiple bookings.

Use **any method** you wish for multiple inputs. The sample run below asks how many bookings there are, but you can choose an alternative method.

For those that exceeded their goal calculate a new goal that is 10% above their previous goal.

Print a summary on the screen showing the name, classification and current goal for each participant. Print a * after anyone who exceeded the goal previously and now has a new goal.

Sample Run 1

How many walkers are there ? 3
Please enter the name of walker #1: **Wendy**
Enter the type of walker(1.Beginner 2.Advanced 3.Professional): 1
How many steps did Wendy walk: **12000**
Beginner goal of 10,000 steps
You exceeded your goal by 2,000 steps. (+ 16.67%)
Well Done.
Your new goal is 11,000 steps

Please enter the name of walker #2: **Billy**
Enter the type of walker(1.Beginner 2.Advanced 3.Professional): 3
How many steps did Billy walk: **21900**
Pro goal of 22,000 steps
You were 100 steps short of your goal. (- .45%)
Nearly there.

Please enter the name of walker #3: **Andy**
Enter the type of walker(1.Beginner 2.Advanced 3.Professional): 2
How many steps did Andy walk: **15004**
Advanced goal of 15,000 steps
You exceeded your goal by 4 steps (+ .03 %)
Well done.
Your new goal is 16,5000 steps

Next Week Personal Goals

```
-----  
1. Wendy      Beginner      11000 *  
2. Billy      Professional  22000  
3. Andy       Advanced      16500 *
```

Question 3 Processing Data

25 %

Write the following information to a file statistics.txt

- the average number of steps walked by all walkers.
- the number of walkers in each category

The sample statistics.txt based on the sample run in Part 2 above was:

Numbers per Classification

```
-----  
Beginner:  2  
Advanced:  0  
Pro:       1
```

The average number of steps per participants 16301.3 steps.

Question 4 Data Validation**20 %**

Modify the code to carry out the following input data validation:

- Ensure that the name begins with an uppercase letter and is at least 1 letter long.
- Ensure that the number of steps entered is a positive integer.