---'Save As' this file using the name in the assignment instructions.
---Type you information.
---Submit the completed development plan via Blackboard with you other files.

NAME: J Hundley
ASSIGNMENT: Lab02a.m / assign02a.c
DATE: Jan. 23, 2012

PROBLEM SOLVING IN ENGINEERING AND SCIENCE
Always use a systematic problem-solving strategy.

1. STATE THE PROBLEM:
---Describe the problem to be solved for the assignment.

Find the BMI for a given height(in inches) and weight(in pounds)

2. DESCRIBE THE INPUT AND OUTPUT REQUIREMENTS:
---List and describe the following as needed to solve the problem, as needed.
---Include units where needed.

CONSTANTS (known values that don't change):

none

INPUT (values needed to find the output):

height in inches
weight in pounds

OUTPUT (unknowns)

BMI

OTHER VARIABLES

height in meters
weight in kilograms

Relevant formulas:
(for complicated equations, it may be helpful to divide it into parts)

BMI = mass in kg / (height in meters)^2
1 kg = 2.2046 pounds
1 inch = 2,54 cm

3. WORK HAND EXAMPLES
---Solve the problem with a few hand examples.
---Record the input values used and the results

| ht(in) | wt(lbs) | BMI |
|---|---|---|
| 70 | 200 | 28.697 |
| 72 | 220 | 29.837 |
| 72 | 165 | 22.378 |

4. DEVELOP AN ALGORITHM:
---Think about the steps used to solve the problem to solve the problem by hand and list them here to create an algorithm.
---The algorithm steps should be used as comments in your program as a guide.

Prompt the user to enter a value for weight in pounds and height in inches.
Compute conversions.
Calculate
Display BMI.

5. SOLVE THE PROBLEM:
---This step represents your writing a computer program to solve the problem.
---NOTE: Do not type your program here. Submit it as a computer program file.
---Use steps in your algorithm as comments in your program to guide the development of you program.

6. TEST THE SOLUTION:
---Run your program using the values from #3 to check for correctness.
---If there is an error, correct your program code and run again.

---'Save As' this file using the name in the assignment instructions.
---Type you information.
---Submit the completed development plan via Blackboard with you other files.

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NAME: J Hundley
ASSIGNMENT: Lab02b.m / assign02b.c
DATE: Jan. 23, 2012

PROBLEM SOLVING IN ENGINEERING AND SCIENCE
Always use a systematic problem-solving strategy.

1. STATE THE PROBLEM:
---Describe the problem to be solved for the assignment.

Find the BMI for a given height(in inches) and weight(in pounds).
Modifies Lab02 part a by adding to following requirement.
Enter a targer BMI and computer the target weight.

2. DESCRIBE THE INPUT AND OUTPUT REQUIREMENTS:
---List and describe the following as needed to solve the problem, as needed.
---Include units where needed.

CONSTANTS (known values that don't change):

none

INPUT (values needed to find the output):

height in inches
weight in pounds
BMI

OUTPUT (unknowns)

BMI
weight in pounds

OTHER VARIABLES

height in meters
weight in kilograms

Relevant formulas:
(for complicated equations, it may be helpful to divide it into parts)

BMI = mass in kg / (height in meters)^2
1 kg = 2.2046 pounds
1 inch = 2,54 cm

3. WORK HAND EXAMPLES
---Solve the problem with a few hand examples.
---Record the input values used and the results

| ht(in) | wt(lbs) | BMI | BMI | wt(lbs) |
|---|---|---|---|---|
| 70 | 200 | 28.697 | 25 | 174.2342 |
| 72 | 220 | 29.837 | 25 | 184.3326 |
| 72 | 165 | 22.378 | 25 | 171.08 |

4. DEVELOP AN ALGORITHM:
---Think about the steps used to solve the problem to solve the problem by
hand and list them here to create an algorithm.
---The algorithm steps should be used as comments in your program as a guide.

Prompt the user to enter a value for weight in pounds and height in inches.
Compute conversions.
Calculate
Display BMI.
Prompt the user to enter a value for BMI.
Compute weight.
Compute conversions.
Display weight

algorithm

5. SOLVE THE PROBLEM:
---This step represents your writing a computer program to solve the problem.
---NOTE: Do not type your program here. Submit it as a computer program file.
---Use steps in your algorithm as comments in your program
   to guide the development of you program.

6. TEST THE SOLUTION:
---Run your program using the values from #3 to check for correctness.
---If there is an error, correct your program code and run again.