EXAMPLE 1

Problem: Write a program to compute the circumference of a circle, given the radius.

Analysis:

There is one input, the radius. There is one output, the circumference. To obtain the output from the input, we need to multiply the radius by 2\* π, where π = 3.1415926535.

Variables table:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data Type** | **Usage** |
| Radius | Float | The radius provided by the user |
| Circumference | Float | The computed circumference |
| Pi | Float | The constant π |

Some Test Cases:

|  |  |
| --- | --- |
| Radius (Input) | Circumference (Output) |
| 1.0 | 6.283185307 |
| 0.318309886 (This is 1/π) | 2.0 |
| 0.0 | 0.0 |

Pseudocode

Begin program

Declare Float Radius, Circumference, Pi

Set Pi = 3.1415926535

Print “Please enter the radius”

Input Radius

Set Circumference = 2\*Pi\*Radius

Print “The circumference is “ + Circumference

End program

Note: In the second-last line, the + indicates concatenation rather than addition. The convention is: if the items on both sides of the + are numeric, then add; otherwise convert any numeric values to strings and concatenate the strings. This convention is followed in many programming languages including Java, but not in C. It is freely used in pseudocode.