|  |  |  |
| --- | --- | --- |
| Write an application to prompt and read a number of units of length (a float) from user and print out the area of a circle of that radius. Assume that the value of pi is 3.14159.  a. If the input value is negative, it should print an error message “Error: Negative values not permitted”  b. If input is positive, should display output “The area of a circle of radius ... units is.... units”. | | |
| Requirement Tag | Requirement Description | Comments |
| DT/01 | Prompt and read a float value as radius from user |  |
| DT/02 | Validate the received argument if negative display error message as given in a) and exit. |  |
| DT/03 | Use macro for pi value |  |
| DT/04 | Write a function cal\_area() to receive a radius input as argument, to calculate and return the area to caller |  |
| DT/05 | Invoke the cal\_area() and display output as given in b) |  |

#include <stdio.h>

#define PI 3.14159

float cal\_area(float r)

{

return PI\*r\*r;

}

int main()

{

float r, area;

printf("Enter the number: ");

scanf("%f",&r);

if(r>0)

{

area=cal\_area(r);

printf("The area of a circle of radius %0.1f units is %0.4f units", r,area);

}

else

printf("Error: Negative values not permitted");

return 0;

}