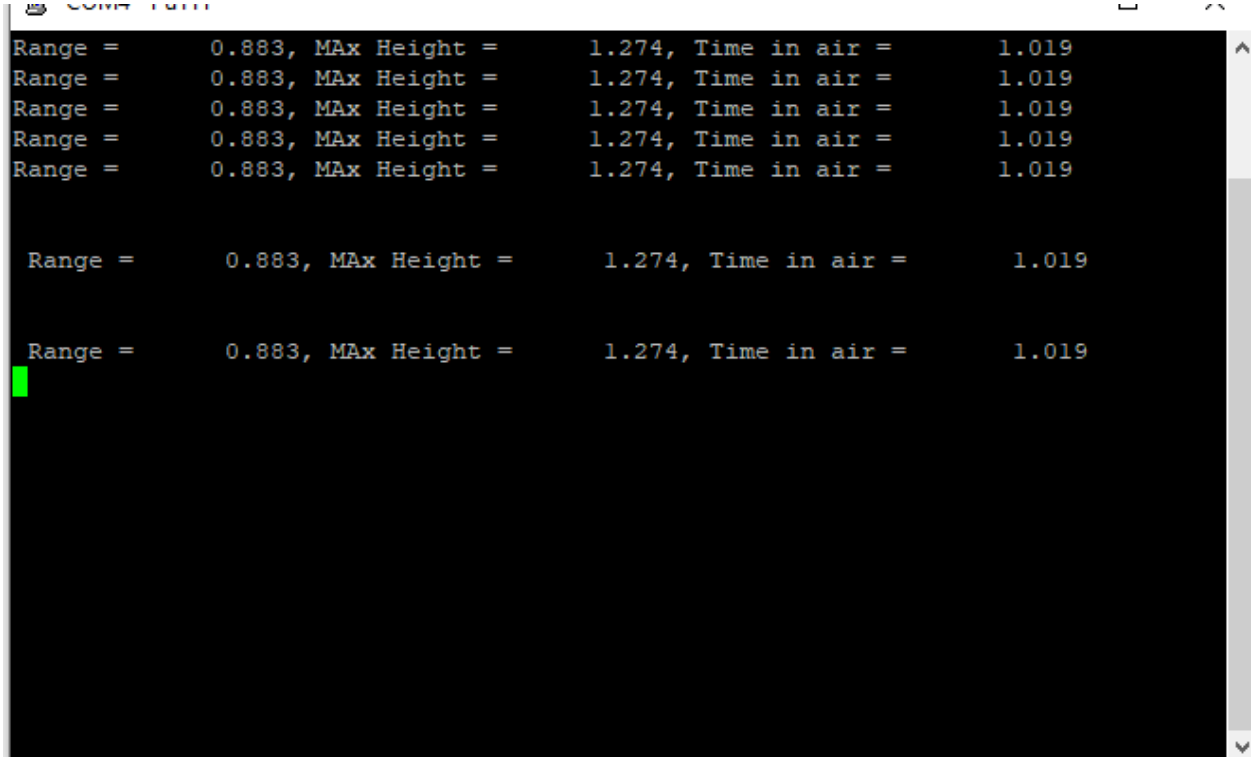
1)

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>


#include "mcc_generated_files/mcc.h"
float g = 9.81, pi;
float Range(float initialvelocity, float angle);
float MaxHeight(float initialVelocity, float angle);
float TimeinAir(float initialVelocity, float angle);

/*
                         Main application
 */
void main(
)
{
    // Initialize the device
    SYSTEM_Initialize();
   pi = 4*atanf(1); // Global



    float distance, MHeight, Time, initialVelocity = 10.0, angle = 30.0;
    distance = Range(initialVelocity,angle);
    MHeight = MaxHeight(initialVelocity,angle);
    Time = TimeinAir(initialVelocity,angle);
    printf("\n\r\n\r Range = %10.3f, MAx Height = %10.3f, Time in air =  %10.3f \n\r", distance, MHeight, Time);


    {
        // Add your application code
    }
}

float Range(float initialVelocity, float angle)
{
    float Range;
    Range= 2*initialVelocity*sinf(angle*pi/180.0)*cosf(angle*pi/180.0)/g;

    return Range;
}

float MaxHeight(float initialVelocity, float angle)
{
        float MaxHeight;

        MaxHeight= powf(initialVelocity*sinf(angle*pi/180.0),2)/2.0/g;

        return MaxHeight;
}

float TimeinAir(float initialVelocity, float angle)
{
    float TimeinAir;

    TimeinAir= 2*initialVelocity*sinf(angle*pi/180.0)/g;

    return TimeinAir;
}

```


Range = 0.883, MAx Height = 1.274, Time in air = 1.019
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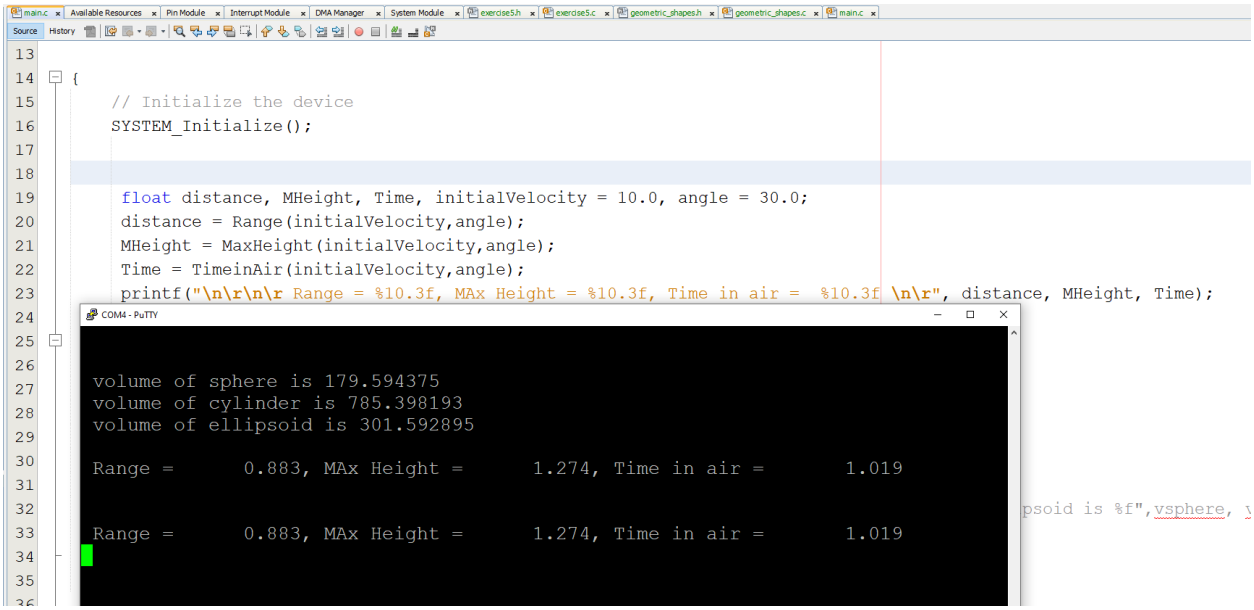
2)


main.c
Available Resources
Pin Module
Interrupt Module
DMA Manager
System Module
exercise5.h
exercise5.c
geometric_shapes.h
geometric_shapes.c
main.c
Source
History
{
// Initialize the device
SYSTEM_Initialize();
float distance, MHeight, Time, initialVelocity = 10.0, angle = 30.0;
distance = Range(initialVelocity,angle);
MHeight = MaxHeight(initialVelocity,angle);
Time = TimeinAir(initialVelocity,angle);
printf("\n\r\n\r Range = %10.3f, MAx Height = %10.3f, Time in air = %10.3f \n\r", distance, MHeight, Time);
COM4 - PuTTY
volume of sphere is 179.594375
volume of cylinder is 785.398193
volume of ellipsoid is 301.592895
Range = 0.883, MAx Height = 1.274, Time in air = 1.019
Range = 0.883, MAx Height = 1.274, Time in air = 1.019

main.c | Available Resources | Pin Module | Interrupt Module | DMA Manager | System Module | exercise5.h | exercise5.c | geometric_sha

Source | History

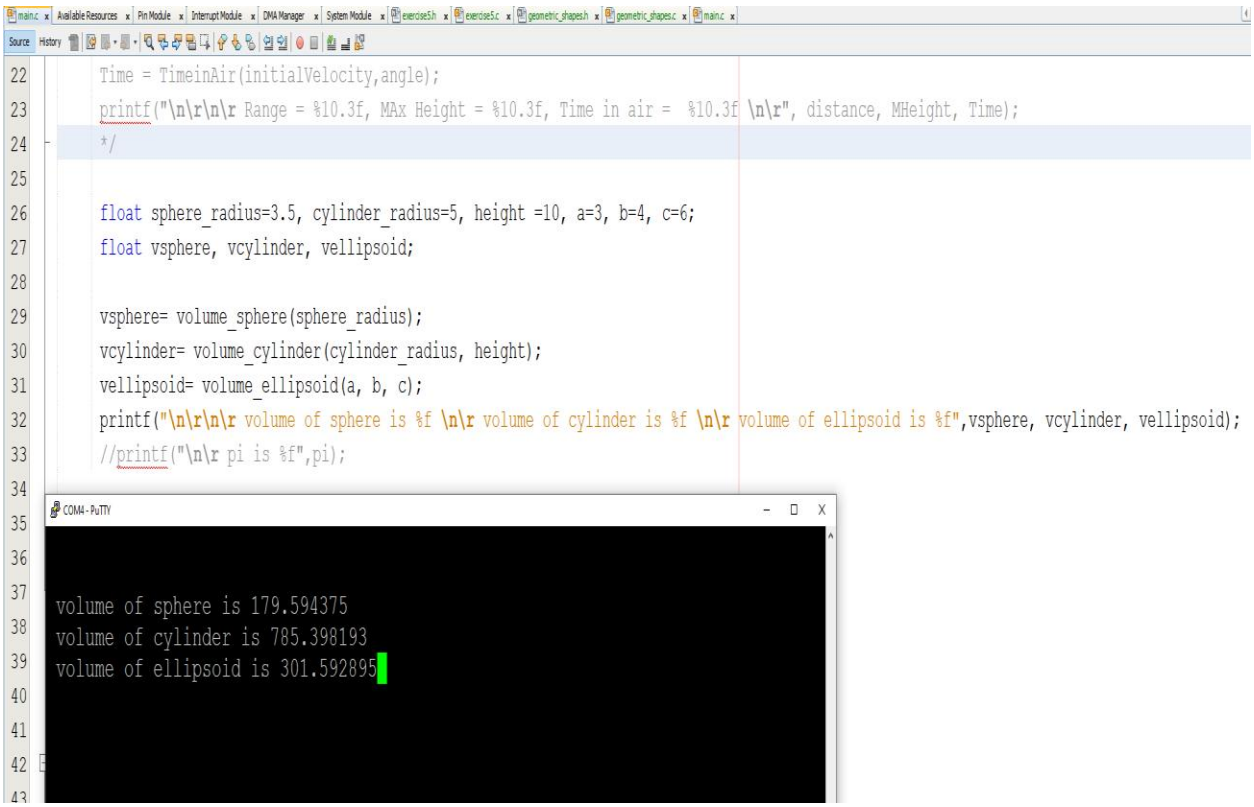
```c
#define g  9.81
#define pi 4*atanf(1)

float Range(float initialvelocity, float angle);
float MaxHeight(float initialVelocity, float angle);
float TimeinAir(float initialVelocity, float angle);
```

main.c | Available Resources | Pin Module | Interrupt Module | DMA Manager | System Module | exercise5.h | exercise5.c | geometric_shapes.h | geometric_shapes.c | main.c

Source | History

```c
#include "exercise5.h"
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>


float Range(float initialVelocity, float angle)
{
    float Range;
    Range= 2*initialVelocity*sinf(angle*pi/180.0)*cosf(angle*pi/180.0)/g;

    return Range;
}

float MaxHeight(float initialVelocity, float angle)
{
        float MaxHeight;

        MaxHeight= powf(initialVelocity*sinf(angle*pi/180.0),2)/2.0/g;

        return MaxHeight;
}

float TimeinAir(float initialVelocity, float angle)
```

3)


main.c
Available Resources
Pin Module
Interrupt Module
DMA Manager
System Module
exercise5.h
exercise5.c
geometric_shapes.h
geometric_shapes.c
main.c
Source
History
Time = TimeinAir(initialVelocity,angle);
printf("\n\r\n\r Range = %10.3f, MAx Height = %10.3f, Time in air = %10.3f \n\r", distance, MHeight, Time);
*/
float sphere_radius=3.5, cylinder_radius=5, height =10, a=3, b=4, c=6;
float vsphere, vcylinder, vellipsoid;
vsphere= volume_sphere(sphere_radius);
vcylinder= volume_cylinder(cylinder_radius, height);
vellipsoid= volume_ellipsoid(a, b, c);
printf("\n\r\n\r volume of sphere is %f \n\r volume of cylinder is %f \n\r volume of ellipsoid is %f",vsphere, vcylinder, vellipsoid);
//printf("\n\r pi is %f",pi);
COM4 - PuTTY
volume of sphere is 179.594375
volume of cylinder is 785.398193
volume of ellipsoid is 301.592895

main.c | Available Resources | Pin Module | Interrupt Module | DMA Manager | System Module | exercise5.h | exercise5.c | geometric_shapes.h | geometric_shapes.c | main.c

Source | History

```c
#define pi 4*atanf(1)

float volume_sphere(float radius);
float volume_cylinder(float radius, float height);
float volume_ellipsoid(float a, float b, float c);
```

main.c | Available Resources | Pin Module | Interrupt Module | DMA Manager | System Module | exercise5.h | exercise5.c | geometric_shapes.h | geometric_shapes.c | main.c

Source | History

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "geometric_shapes.h"

float volume_sphere(float radius)
{
    float volumes;
    volumes= 4*pi*pow(radius,3)/3;
    return volumes;
}

float volume_cylinder(float radius, float height)
{
    float volumec;
    volumec=pi*height*pow(radius,2);
    return volumec;
}

float volume_ellipsoid(float a, float b, float c)
{
    float volumee;
    volumee= 4*pi*a*b*c/3;
    return volumee;
}
```