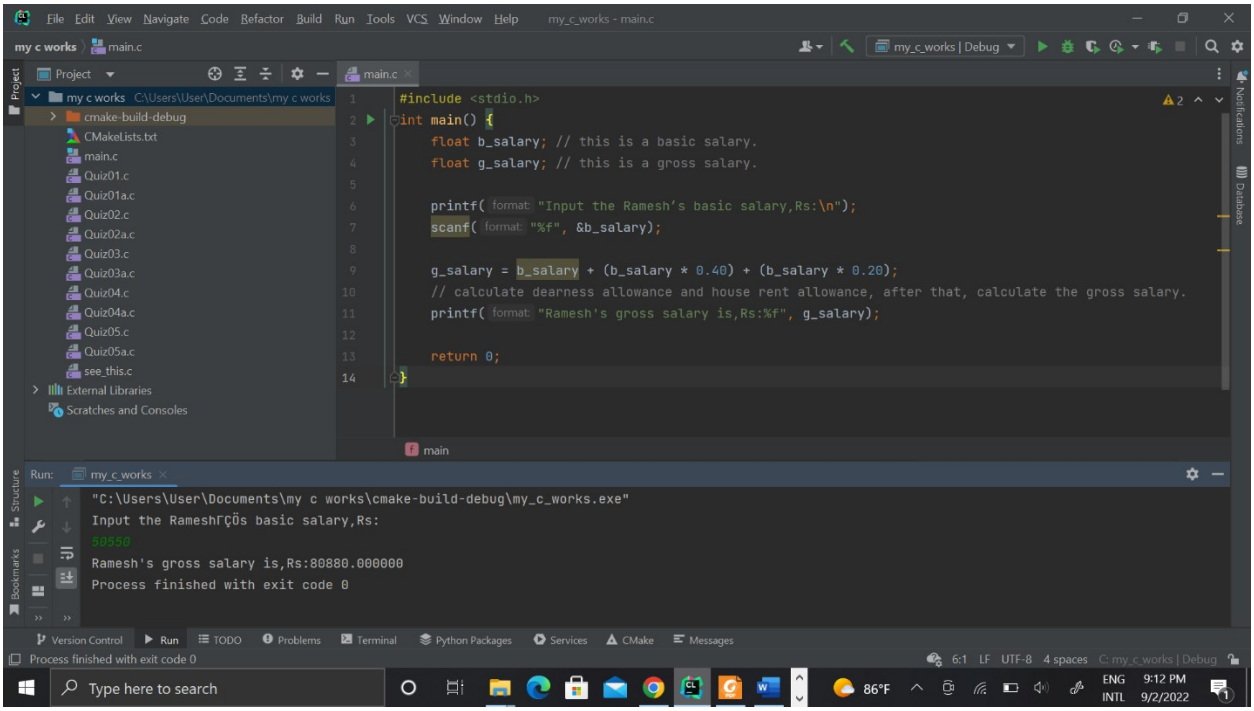
Senarathna G.G.P.C. – 214189E.
Practice Questions.

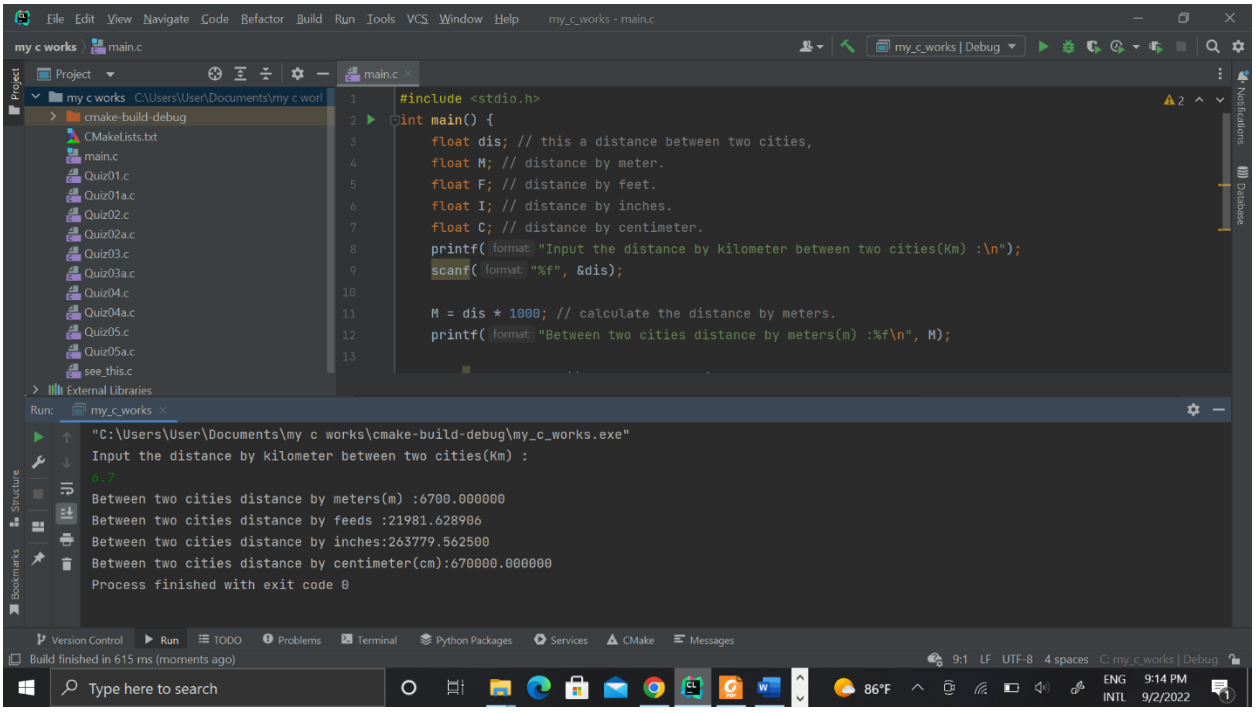
1. Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.

```c
#include <stdio.h>
int main() {
    float b_salary; // this is a basic salary.
    float g_salary; // this is a gross salary.

    printf("Input the Ramesh's basic salary,Rs:\n");
    scanf("%f", &b_salary);

    g_salary = b_salary + (b_salary * 0.40) + (b_salary * 0.20);
    // calculate dearness allowance and house rent allowance, after that,
calculate the gross salary.
    printf("Ramesh's gross salary is,Rs:%f", g_salary);

    return 0;
}
```



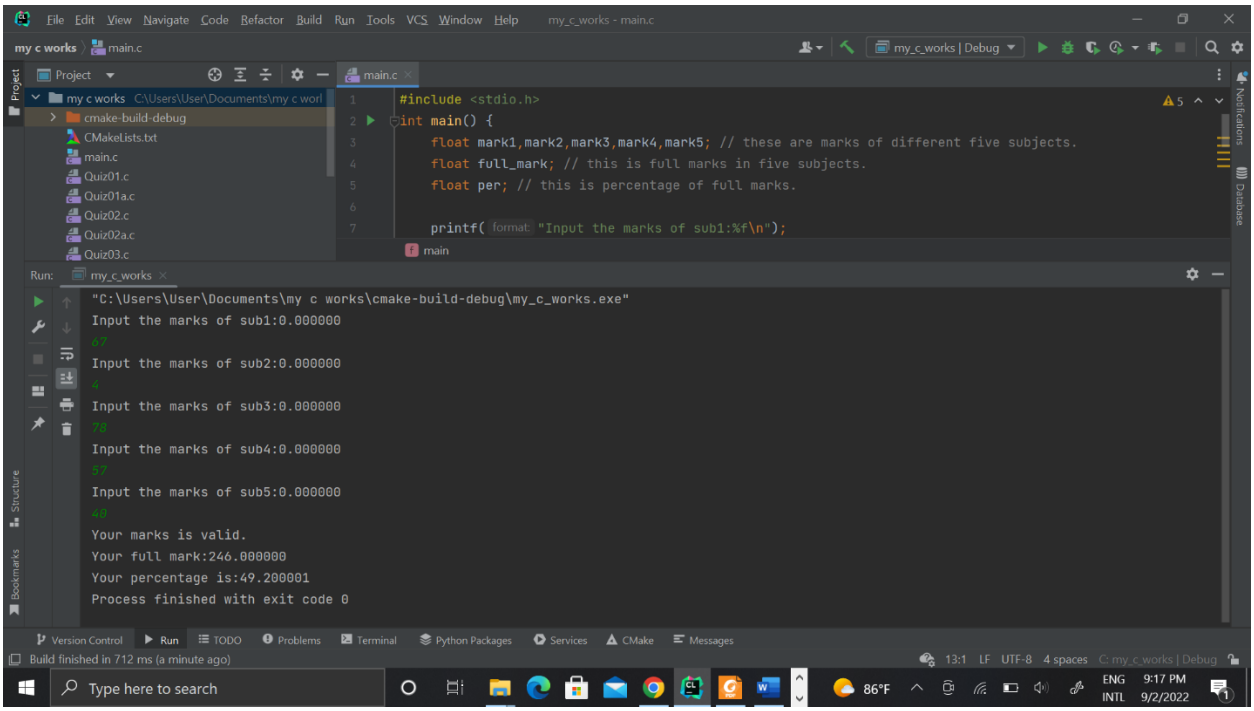
2. The distance between two cities (in km.) is input through the keyboard. Write a program to convert and print this distance in meters, feet, inches and centimeters.

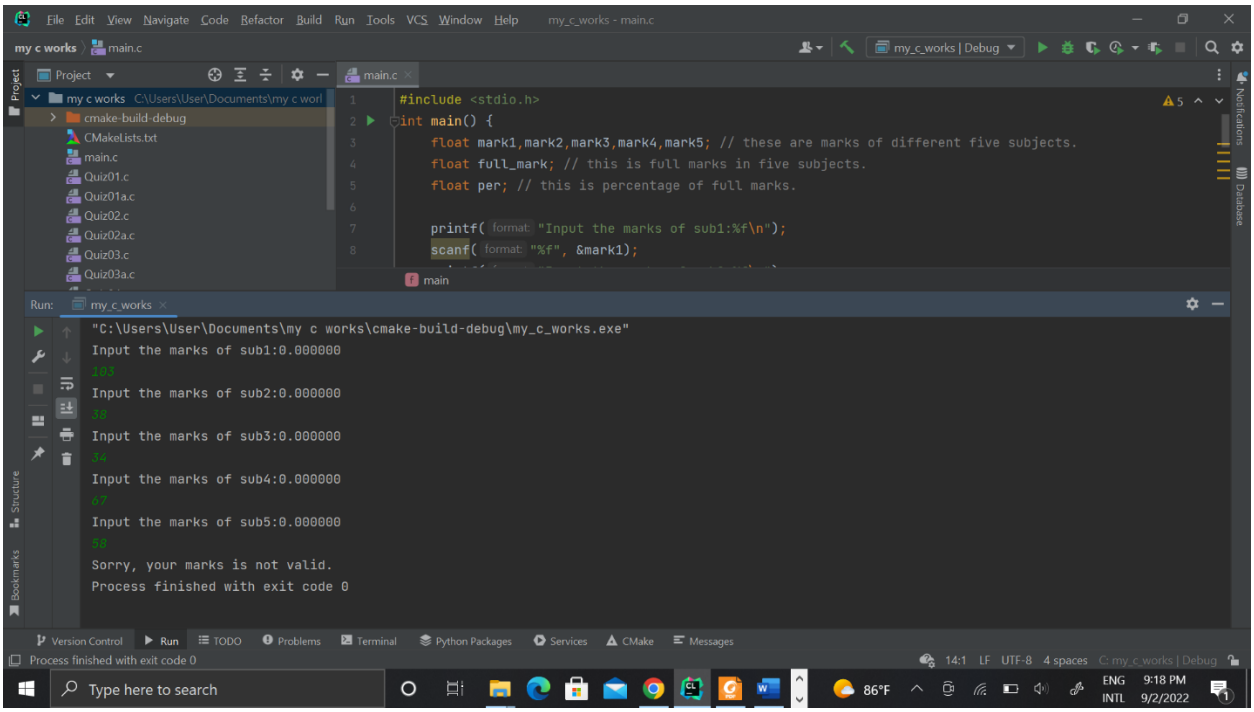
```c
#include <stdio.h>
int main() {
    float dis; // this a distance between two cities,
    float M; // distance by meter.
    float F; // distance by feet.
    float I; // distance by inches.
    float C; // distance by centimeter.
    printf("Input the distance by kilometer between two cities(Km) :\n");
    scanf("%f", &dis);

    M = dis * 1000; // calculate the distance by meters.
    printf("Between two cities distance by meters(m) :%f\n", M);

    F = M * 3.28084; // calculate the distance by eeds.
    printf("Between two cities distance by feeds :%f\n", F);

    I = F * 12; // calculate the distance by inches.
    printf("Between two cities distance by inches:%f\n", I);

    C = M * 100; // calculate the distance by centimeters.
    printf("Between two cities distance by centimeter(cm):%f", C);
    return 0;
}
```



3. If the marks obtained by a student in five different subjects are input through the keyboard, write a program to find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100.

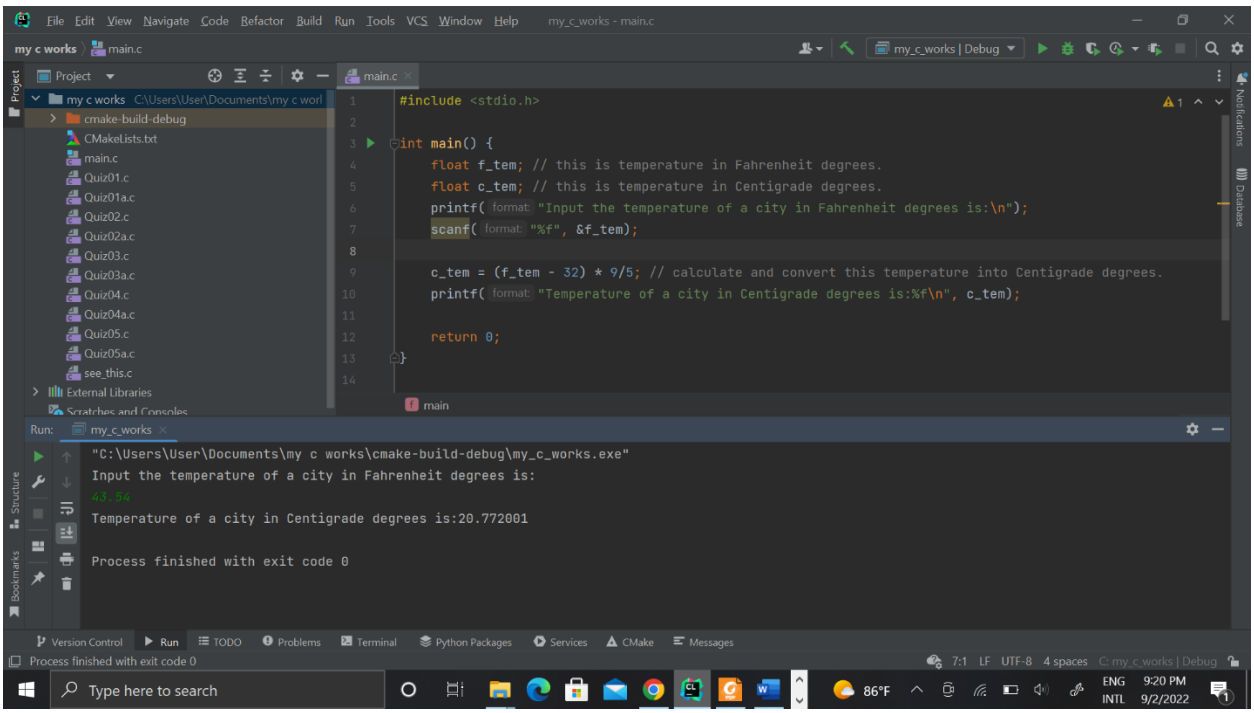
```c
#include <stdio.h>
int main() {
    float mark1,mark2,mark3,mark4,mark5; // these are marks of different five
subjects.
    float full_mark; // this is full marks in five subjects.
    float per; // this is percentage of full marks.

    printf("Input the marks of sub1:%f\n");
    scanf("%f", &mark1);
    printf("Input the marks of sub2:%f\n");
    scanf("%f", &mark2);
    printf("Input the marks of sub3:%f\n");
    scanf("%f", &mark3);
    printf("Input the marks of sub4:%f\n");
    scanf("%f", &mark4);
    printf("Input the marks of sub5:%f\n");
    scanf("%f", &mark5);

    if ((mark1 <= 100) && (mark2 <= 100) && (mark3 <= 100) && (mark4 <= 100)
&& (mark5 <= 100)) {
        printf("Your marks is valid.\n");

        full_mark = mark1 + mark2 + mark3 + mark4 + mark5; // calculate the
full marks.
        printf("Your full mark:%f\n", full_mark);

        per = full_mark / 5 ; // calculate the percentage.
        printf("Your percentage is:%f", per);
    } else {
        printf("Sorry, your marks is not valid.");
    }
    return 0;
}
```


File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
my_c_works - main.c
my c works
main.c
my_c_works | Debug
Project
my c works C:\Users\User\Documents\my c worl
cmake-build-debug
CMakeLists.txt
main.c
Quiz01.c
Quiz01a.c
Quiz02.c
Quiz02a.c
Quiz03.c
#include <stdio.h>
int main() {
float mark1,mark2,mark3,mark4,mark5; // these are marks of different five subjects.
float full_mark; // this is full marks in five subjects.
float per; // this is percentage of full marks.
printf(format: "Input the marks of sub1:%f\n");
main
Run:
my_c_works
"C:\Users\User\Documents\my c works\cmake-build-debug\my_c_works.exe"
Input the marks of sub1:0.000000
67
Input the marks of sub2:0.000000
4
Input the marks of sub3:0.000000
78
Input the marks of sub4:0.000000
57
Input the marks of sub5:0.000000
40
Your marks is valid.
Your full mark:246.000000
Your percentage is:49.200001
Process finished with exit code 0
Version Control
Run
TODO
Problems
Terminal
Python Packages
Services
CMake
Messages
Build finished in 712 ms (a minute ago)
13:1 LF UTF-8 4 spaces
Type here to search
86°F
ENG INTL
9:17 PM
9/2/2022


File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
my_c_works - main.c
my c works
main.c
my_c_works | Debug
Project
my c works C:\Users\User\Documents\my c worl
cmake-build-debug
CMakeLists.txt
main.c
Quiz01.c
Quiz01a.c
Quiz02.c
Quiz02a.c
Quiz03.c
Quiz03a.c
#include <stdio.h>
int main() {
float mark1,mark2,mark3,mark4,mark5; // these are marks of different five subjects.
float full_mark; // this is full marks in five subjects.
float per; // this is percentage of full marks.
printf(format: "Input the marks of sub1:%f\n");
scanf(format: "%f", &mark1);
main
Run:
my_c_works
"C:\Users\User\Documents\my c works\cmake-build-debug\my_c_works.exe"
Input the marks of sub1:0.000000
103
Input the marks of sub2:0.000000
38
Input the marks of sub3:0.000000
34
Input the marks of sub4:0.000000
67
Input the marks of sub5:0.000000
98
Sorry, your marks is not valid.
Process finished with exit code 0
Version Control
Run
TODO
Problems
Terminal
Python Packages
Services
CMake
Messages
Process finished with exit code 0
14:1 LF UTF-8 4 spaces
Type here to search
86°F
ENG INTL
9:18 PM
9/2/2022

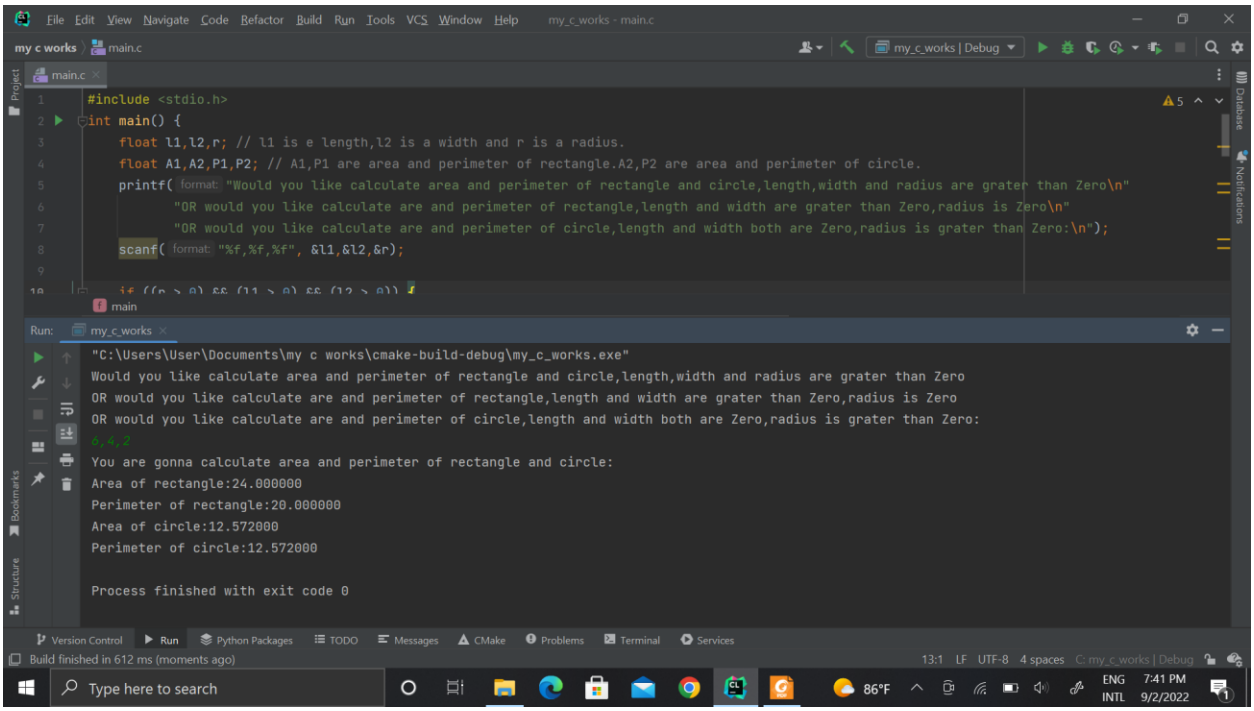
4. Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into Centigrade degrees.

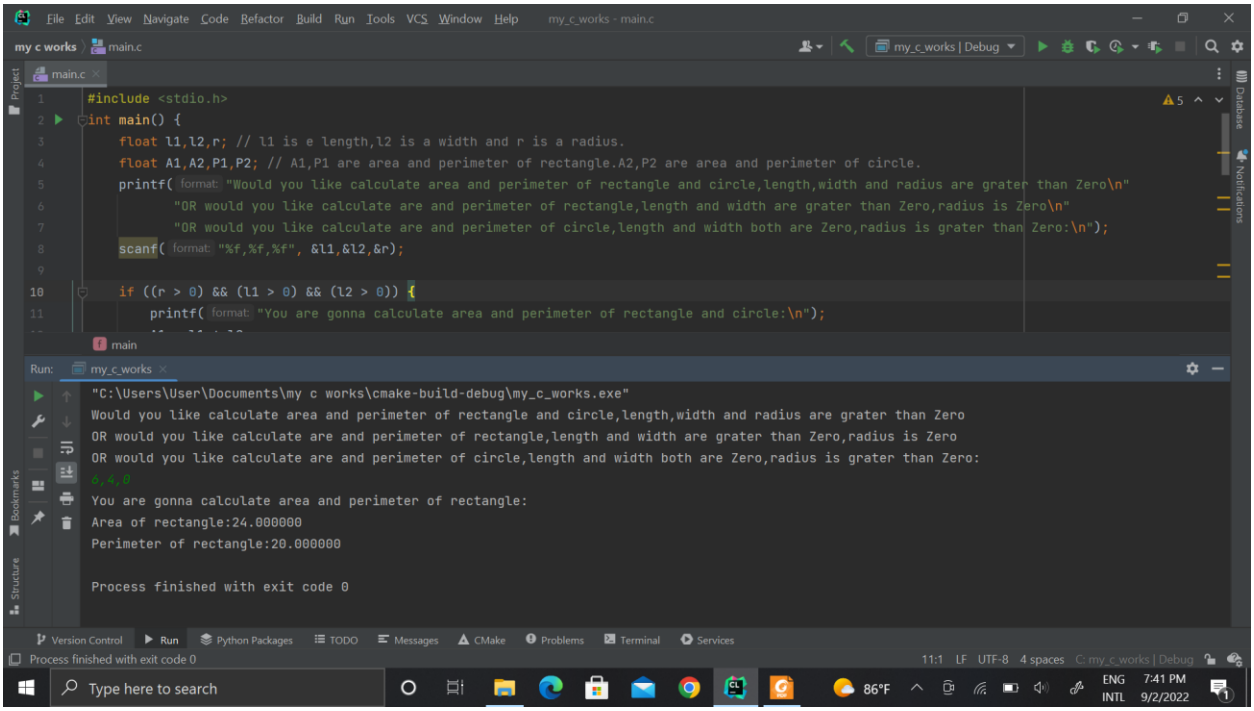
```c
#include <stdio.h>

int main() {
    float f_tem; // this is temperature in Fahrenheit degrees.
    float c_tem; // this is temperature in Centigrade degrees.
    printf("Input the temperature of a city in Fahrenheit degrees is:\n");
    scanf("%f", &f_tem);

    c_tem = (f_tem - 32) * 9/5; // calculate and convert this temperature into Centigrade degrees.
    printf("Temperature of a city in Centigrade degrees is:%f\n", c_tem);

    return 0;
}
```

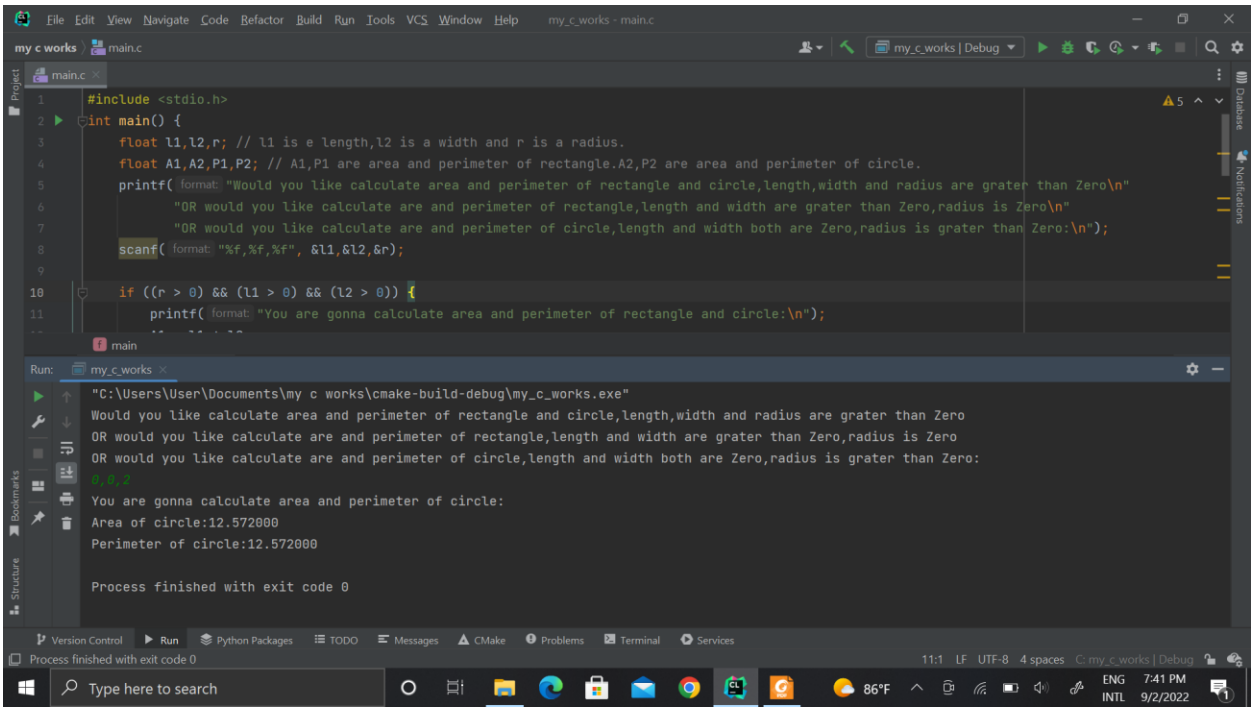


5. The length and breadth of a rectangle and radius of a circle are input through the keyboard. Write a program to calculate the area and perimeter of the rectangle, and the area and circumference of the circle.

```c
#include <stdio.h>
int main() {
    float l1,l2,r; // l1 is e length,l2 is a width and r is a radius.
    float A1,A2,P1,P2; // A1,P1 are area and perimeter of rectangle.A2,P2 are
area and perimeter of circle.
    printf("Would you like calculate area and perimeter of rectangle and
circle,length,width and radius are grater than Zero\n"
           "OR would you like calculate are and perimeter of rectangle,length
and width are grater than Zero,radius is Zero\n"
           "OR would you like calculate are and perimeter of circle,length
and width both are Zero,radius is grater than Zero:\n");
    scanf("%f,%f,%f", &l1,&l2,&r);

    if ((r > 0) && (l1 > 0) && (l2 > 0)) {
        printf("You are gonna calculate area and perimeter of rectangle and
circle:\n");
        A1 = l1 * l2;
        printf("Area of rectangle:%f\n", A1);
        P1 = (l1 + l2) * 2;
        printf("Perimeter of rectangle:%f\n", P1);
        A2 = 3.143 * r * r;
        printf("Area of circle:%f\n", A2);
        P2 = 2 * 3.143 * r;
        printf("Perimeter of circle:%f\n", P2);
    } else if ((r == 0) && (l1 > 0) && (l2 > 0)) {
        printf("You are gonna calculate area and perimeter of rectangle:\n");
        A1 = l1 * l2;
        printf("Area of rectangle:%f\n", A1);
        P1 = (l1 + l2) * 2;
        printf("Perimeter of rectangle:%f\n", P1);
    } else {
        printf("You are gonna calculate area and perimeter of circle:\n");
        A2 = 3.143 * r * r;
        printf("Area of circle:%f\n", A2);
        P2 = 2 * 3.143 * r;
        printf("Perimeter of circle:%f\n", P2);
    }
    return 0;
}
```


File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
my_c_works - main.c
my c works
main.c
my_c_works | Debug
main.c
#include <stdio.h>
int main() {
float l1,l2,r; // l1 is e length,l2 is a width and r is a radius.
float A1,A2,P1,P2; // A1,P1 are area and perimeter of rectangle.A2,P2 are area and perimeter of circle.
printf(format: "Would you like calculate area and perimeter of rectangle and circle,length,width and radius are grater than Zero\n"
"OR would you like calculate are and perimeter of rectangle,length and width are grater than Zero,radius is Zero\n"
"OR would you like calculate are and perimeter of circle,length and width both are Zero,radius is grater than Zero:\n");
scanf(format: "%f,%f,%f", &l1,&l2,&r);
main
Run:
my_c_works
"C:\Users\User\Documents\my c works\cmake-build-debug\my_c_works.exe"
Would you like calculate area and perimeter of rectangle and circle,length,width and radius are grater than Zero
OR would you like calculate are and perimeter of rectangle,length and width are grater than Zero,radius is Zero
OR would you like calculate are and perimeter of circle,length and width both are Zero,radius is grater than Zero:
6,4,2
You are gonna calculate area and perimeter of rectangle and circle:
Area of rectangle:24.000000
Perimeter of rectangle:20.000000
Area of circle:12.572000
Perimeter of circle:12.572000
Process finished with exit code 0
Version Control
Run
Python Packages
TODO
Messages
CMake
Problems
Terminal
Services
Build finished in 612 ms (moments ago)
13:1 LF UTF-8 4 spaces
Type here to search
86°F
ENG INTL
7:41 PM
9/2/2022

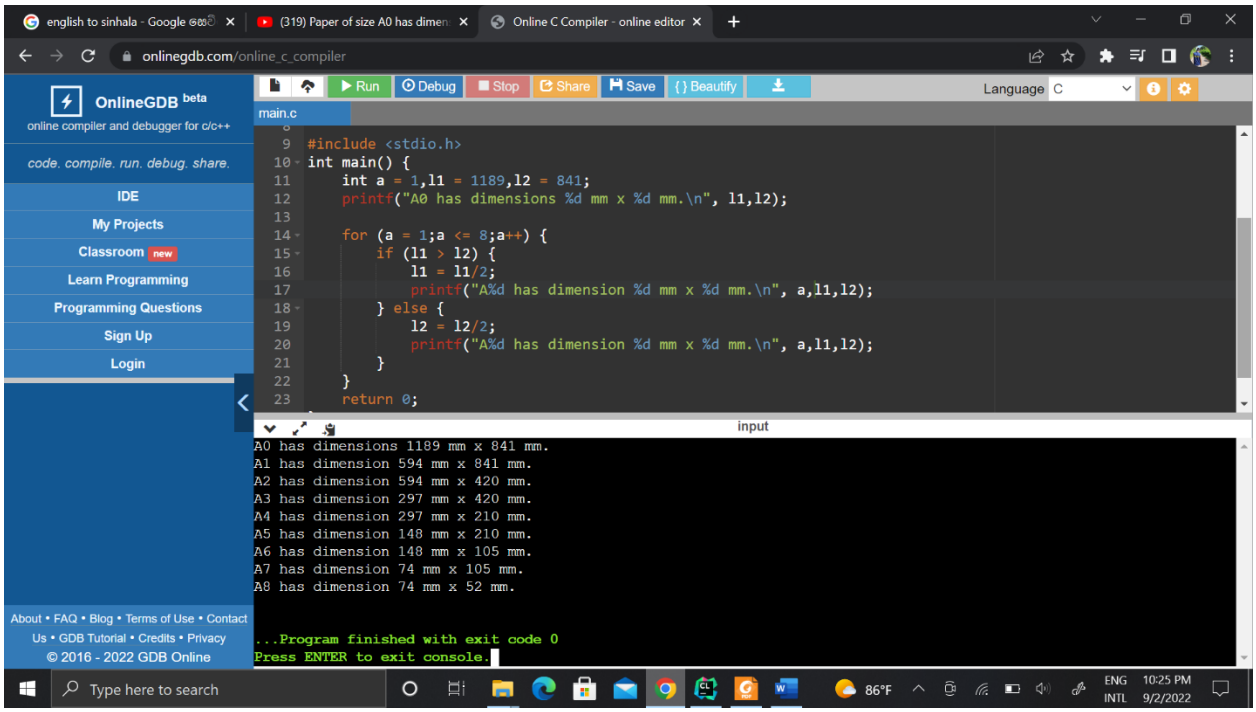

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
my_c_works - main.c
my c works
main.c
my_c_works | Debug
main.c
#include <stdio.h>
int main() {
float l1,l2,r; // l1 is e length,l2 is a width and r is a radius.
float A1,A2,P1,P2; // A1,P1 are area and perimeter of rectangle.A2,P2 are area and perimeter of circle.
printf(format: "Would you like calculate area and perimeter of rectangle and circle,length,width and radius are grater than Zero\n"
"OR would you like calculate are and perimeter of rectangle,length and width are grater than Zero,radius is Zero\n"
"OR would you like calculate are and perimeter of circle,length and width both are Zero,radius is grater than Zero:\n");
scanf(format: "%f,%f,%f", &l1,&l2,&r);
if ((r > 0) && (l1 > 0) && (l2 > 0)) {
printf(format: "You are gonna calculate area and perimeter of rectangle and circle:\n");
main
Run:
my_c_works
"C:\Users\User\Documents\my c works\cmake-build-debug\my_c_works.exe"
Would you like calculate area and perimeter of rectangle and circle,length,width and radius are grater than Zero
OR would you like calculate are and perimeter of rectangle,length and width are grater than Zero,radius is Zero
OR would you like calculate are and perimeter of circle,length and width both are Zero,radius is grater than Zero:
6,4,0
You are gonna calculate area and perimeter of rectangle:
Area of rectangle:24.000000
Perimeter of rectangle:20.000000
Process finished with exit code 0
Version Control
Run
Python Packages
TODO
Messages
CMake
Problems
Terminal
Services
Process finished with exit code 0
11:1 LF UTF-8 4 spaces
Type here to search
86°F
ENG INTL
7:41 PM
9/2/2022



6. Paper of size A0 has dimensions 1189 mm x 841 mm. Each subsequent size A(n) is defined as A(n-1) cut in half parallel to its shorter sides. Thus paper of size A1 would have dimensions 841 mm x 594 mm. Write a program to calculate and print paper sizes A0, A1, A2, … A8.

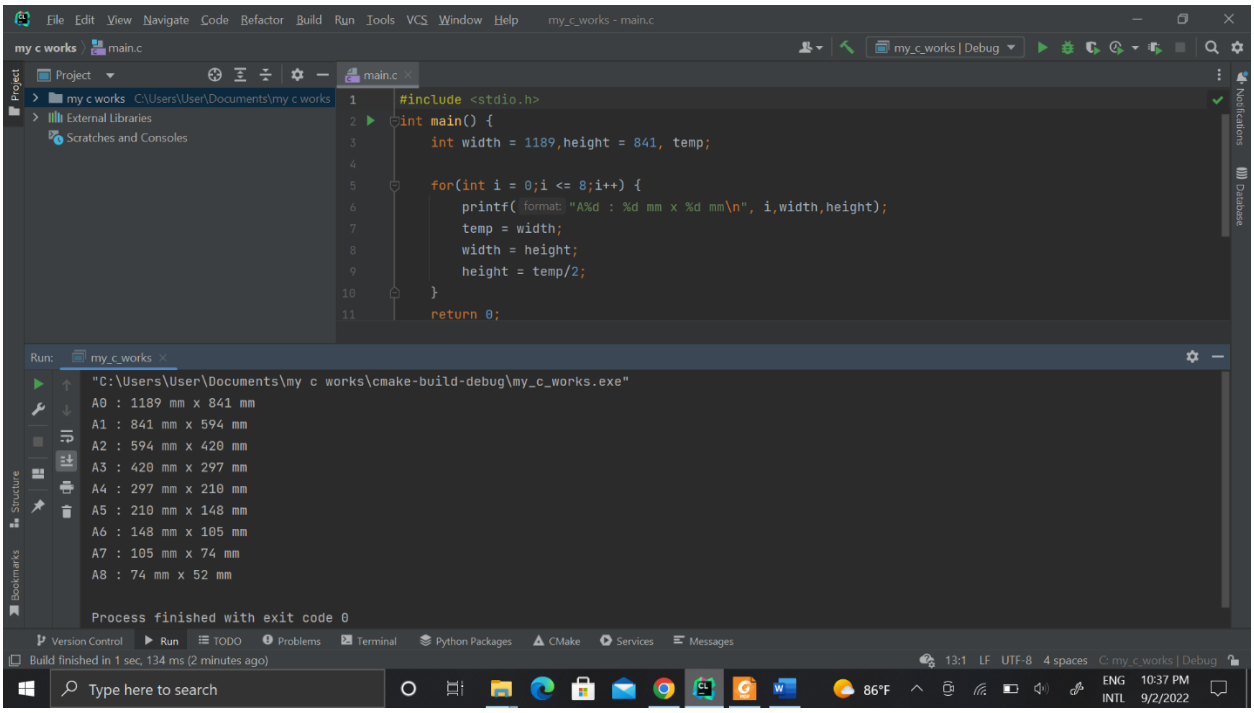
Part_01;

```c
#include <stdio.h>
int main() {
    int a = 1,l1 = 1189,l2 = 841;
    printf("A0 has dimensions %d mm x %d mm.\n", l1,l2);

    for (a = 1;a <= 8;a++) {
        if (l1 > l2) {
            l1 = l1/2;
            printf("A%d has dimension %d mm x %d mm.\n", a,l1,l2);
        } else {
            l2 = l2/2;
            printf("A%d has dimension %d mm x %d mm.\n", a,l1,l2);
        }
    }
    return 0;
}
```



Part_02;

```c
#include <stdio.h>

int main() {
    int width = 1189,height = 841, temp;

    for(int i = 0;i <= 8;i++) {
        printf("A%d : %d mm x %d mm\n", i,width,height);
        temp = width;
        width = height;
        height = temp/2;
    }
    return 0;
}
```


File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
my_c_works - main.c
my c works
main.c
my_c_works | Debug
Project
my c works C:\Users\User\Documents\my c works
External Libraries
Scratches and Consoles
main.c
#include <stdio.h>
int main() {
int width = 1189,height = 841, temp;
for(int i = 0;i <= 8;i++) {
printf(format: "A%d : %d mm x %d mm\n", i,width,height);
temp = width;
width = height;
height = temp/2;
}
return 0;
Run:
my_c_works
"C:\Users\User\Documents\my c works\cmake-build-debug\my_c_works.exe"
A0 : 1189 mm x 841 mm
A1 : 841 mm x 594 mm
A2 : 594 mm x 420 mm
A3 : 420 mm x 297 mm
A4 : 297 mm x 210 mm
A5 : 210 mm x 148 mm
A6 : 148 mm x 105 mm
A7 : 105 mm x 74 mm
A8 : 74 mm x 52 mm
Process finished with exit code 0
Version Control
Run
TODO
Problems
Terminal
Python Packages
CMake
Services
Messages
Build finished in 1 sec, 134 ms (2 minutes ago)
13:1 LF UTF-8 4 spaces
C: my_c_works | Debug
Type here to search
86°F
ENG
INTL
10:37 PM
9/2/2022