Shri G. S. Institute of Technology and Science

CO24997 : programming practices

November 21, 2022

MINI PROJECT : UNIT CONVERTER :
starting date : 13/11/22
ending date : 21/11/22

The project is coded in two languages c and java

0.1 UNIT CONVERTER :

project is made on unit converter.Unit converter enables conversion and switching the base unit to converting unit. In this project we use 5 quantities for converting into unit, for ex. meter into kilometer and million to crores.

five quantities are used in this project :

1. mass : kilogram and gram

2.temperature : kelvin and celcius

3.time : seconds and hours

4.currency : million and crores

5. length : kilometer and meter

0.2 IN C language :

no. of code line is : **205** In unit converter we use 10 user define function are:

1. float getgram(float kilogram);

2. float getkilogram(float gram);

3. float getmillion(float crores);

4. float getcrores(float million);

5. float getkelvin(float celcius);

6. float getcelcius(float kelvin);

7. float gethours(float seconds);

8. float getseconds(float hours);

9. float getkilometer(float meter);

10. float getmeter(float kilometer);

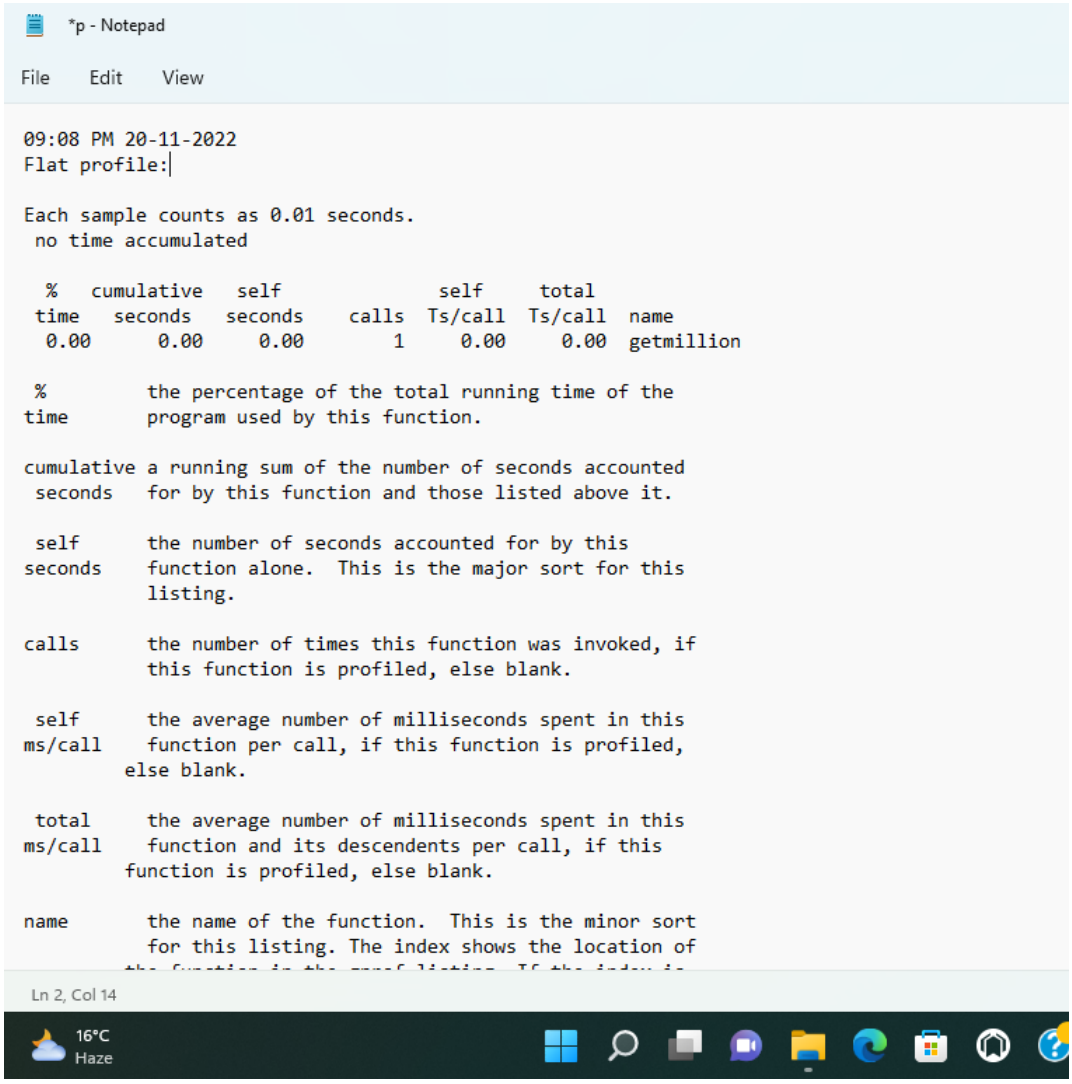
0.2.1 debugging :

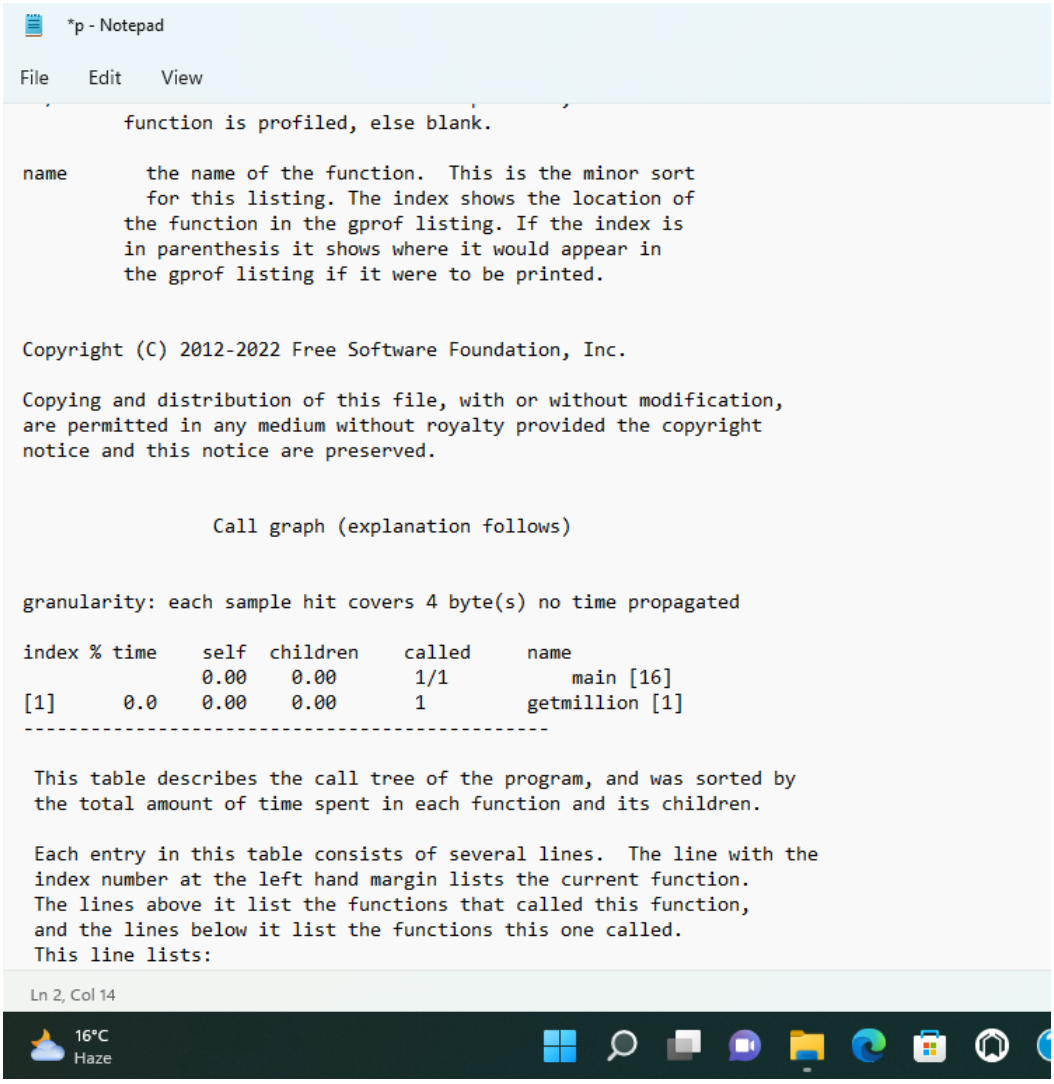
The screenshoot of debbuging of unit converter program are :

```
deepikamandroniyahp@LAPTOP-I3GJHV0P: ~
93 updates can be applied immediately.
51 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


This message is shown once a day. To disable it please create the
/home/deepikamandroniyahp/.hushlogin file.
deepikamandroniyahp@LAPTOP-I3GJHV0P:~$ project.c
project.c: command not found
deepikamandroniyahp@LAPTOP-I3GJHV0P:~$ gcc project.c
deepikamandroniyahp@LAPTOP-I3GJHV0P:~$ nano project.c
deepikamandroniyahp@LAPTOP-I3GJHV0P:~$ ./a.out
welcome to unit conversion!!
        please select the quantity you want to convert

Mass(m) , Currency(C) , Temperature(T) ,Time(t) , Length(L)
m
welcome to unit conversion!!
please choose :
 1 for getkilogram
 2 for getgram
1
enter the value in gram to get kilogram
12
the conversion of gram in kilogram is 0.012
deepikamandroniyahp@LAPTOP-I3GJHV0P:~$
```

0.2.2 profilling :

The screenshoots of profiling of unit converter program are :




*p - Notepad
File Edit View
function is profiled, else blank.
name the name of the function. This is the minor sort
for this listing. The index shows the location of
the function in the gprof listing. If the index is
in parenthesis it shows where it would appear in
the gprof listing if it were to be printed.
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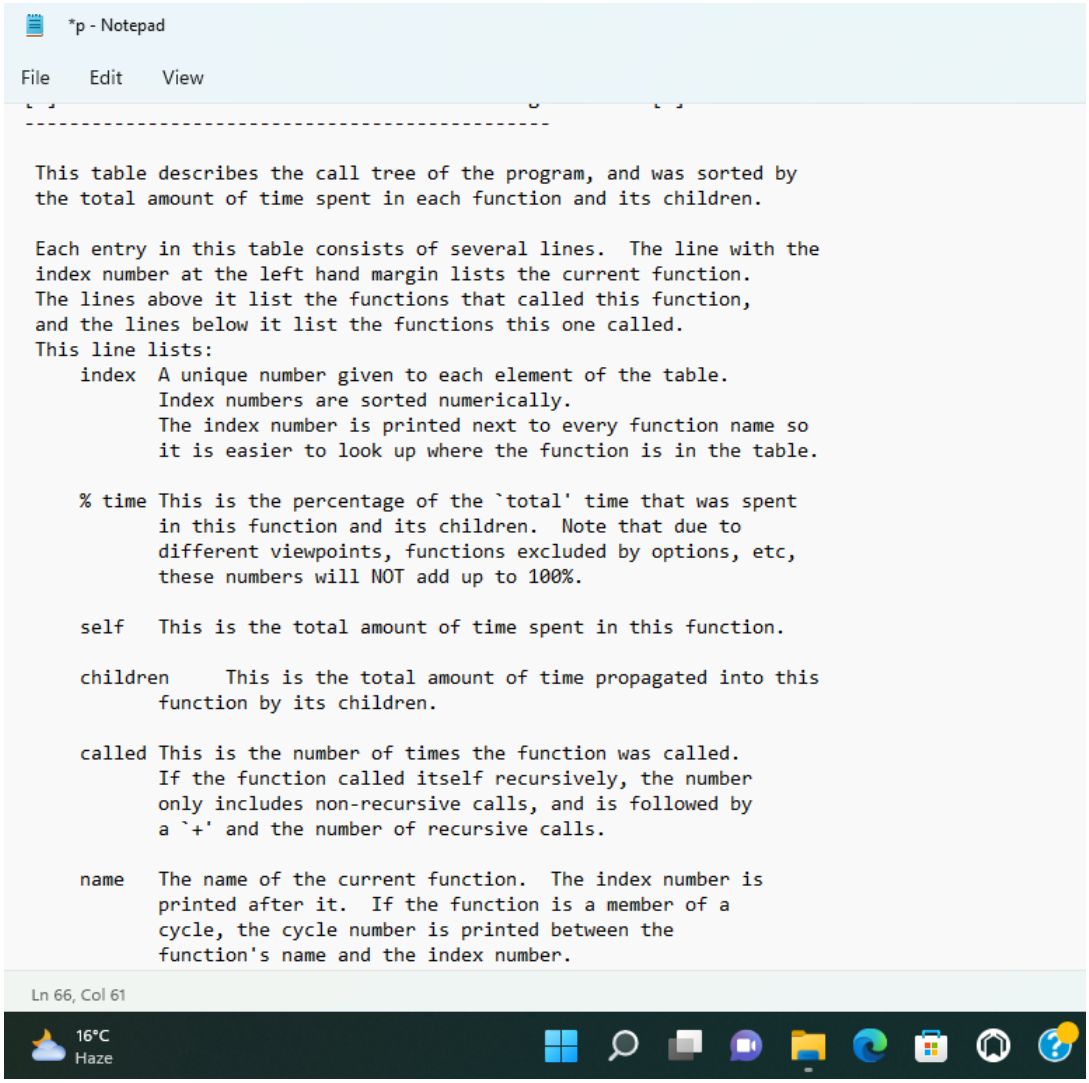
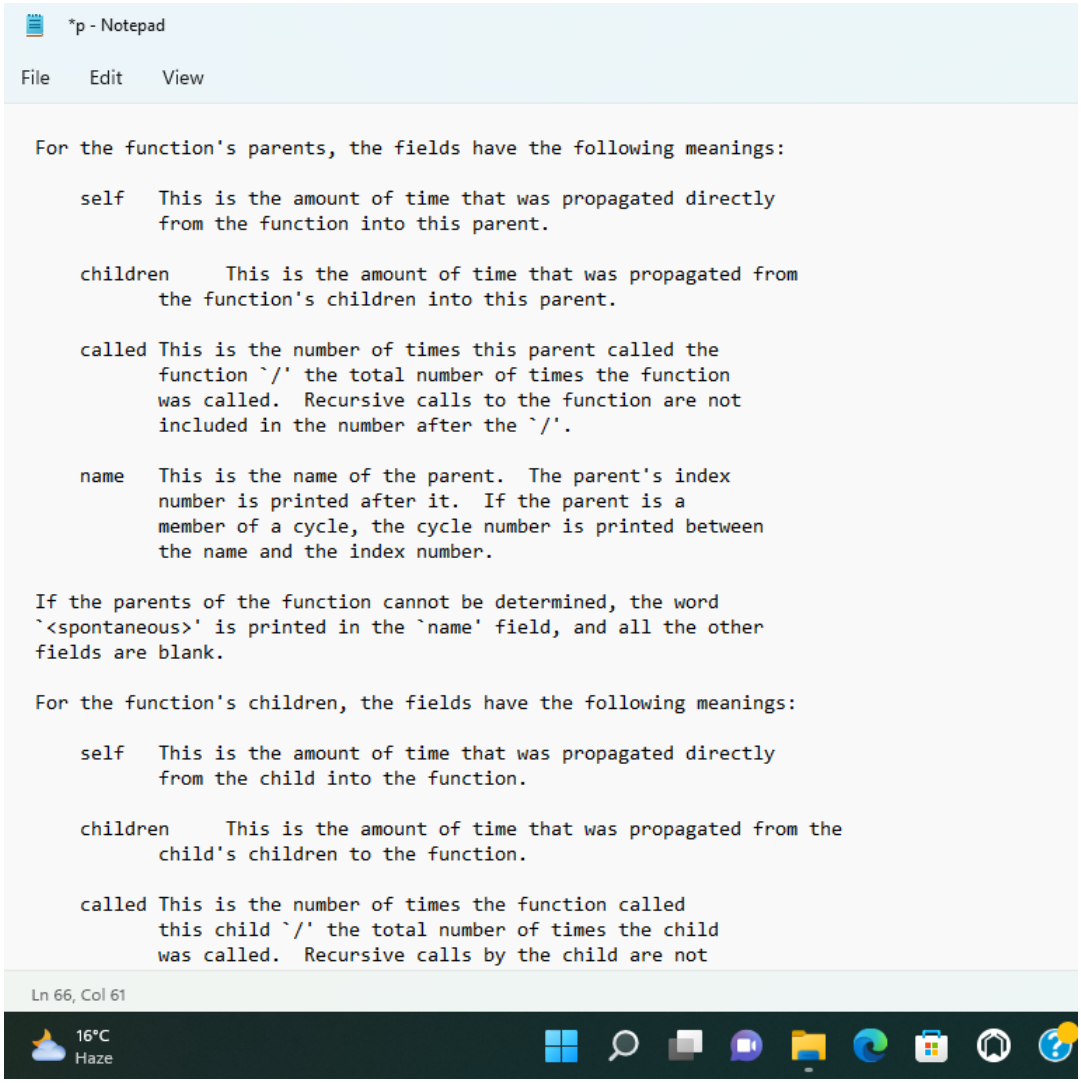
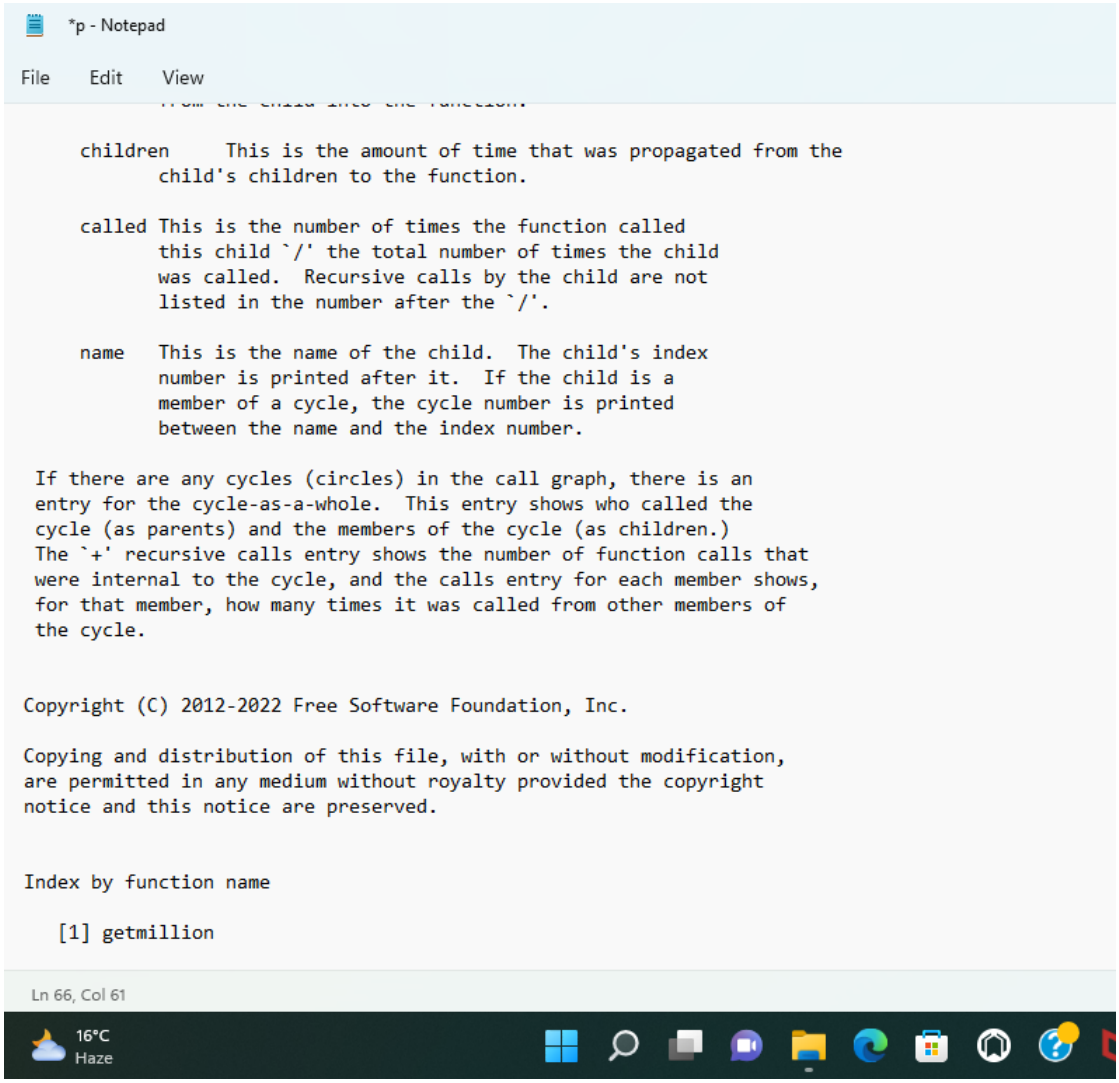
are permitted in any medium without royalty provided the copyright
notice and this notice are preserved.
Call graph (explanation follows)
granularity: each sample hit covers 4 byte(s) no time propagated
index % time self children called name
0.00 0.00 1/1 main [16]
[1] 0.0 0.00 0.00 1 getmillion [1]
This table describes the call tree of the program, and was sorted by
the total amount of time spent in each function and its children.
Each entry in this table consists of several lines. The line with the
index number at the left hand margin lists the current function.
The lines above it list the functions that called this function,
and the lines below it list the functions this one called.
This line lists:
Ln 2, Col 14
16°C
Haze


*p - Notepad
File Edit View
This table describes the call tree of the program, and was sorted by
the total amount of time spent in each function and its children.
Each entry in this table consists of several lines. The line with the
index number at the left hand margin lists the current function.
The lines above it list the functions that called this function,
and the lines below it list the functions this one called.
This line lists:
index A unique number given to each element of the table.
Index numbers are sorted numerically.
The index number is printed next to every function name so
it is easier to look up where the function is in the table.
% time This is the percentage of the `total' time that was spent
in this function and its children. Note that due to
different viewpoints, functions excluded by options, etc,
these numbers will NOT add up to 100%.
self This is the total amount of time spent in this function.
children This is the total amount of time propagated into this
function by its children.
called This is the number of times the function was called.
If the function called itself recursively, the number
only includes non-recursive calls, and is followed by
a `+' and the number of recursive calls.
name The name of the current function. The index number is
printed after it. If the function is a member of a
cycle, the cycle number is printed between the
function's name and the index number.
Ln 66, Col 61
16°C
Haze


*p - Notepad
File Edit View
For the function's parents, the fields have the following meanings:
self This is the amount of time that was propagated directly from the function into this parent.
children This is the amount of time that was propagated from the function's children into this parent.
called This is the number of times this parent called the function `/' the total number of times the function was called. Recursive calls to the function are not included in the number after the `/'.
name This is the name of the parent. The parent's index number is printed after it. If the parent is a member of a cycle, the cycle number is printed between the name and the index number.
If the parents of the function cannot be determined, the word `<spontaneous>' is printed in the `name' field, and all the other fields are blank.
For the function's children, the fields have the following meanings:
self This is the amount of time that was propagated directly from the child into the function.
children This is the amount of time that was propagated from the child's children to the function.
called This is the number of times the function called this child `/' the total number of times the child was called. Recursive calls by the child are not
Ln 66, Col 61
16°C
Haze


*p - Notepad
File Edit View
children This is the amount of time that was propagated from the child's children to the function.
called This is the number of times the function called this child `/' the total number of times the child was called. Recursive calls by the child are not listed in the number after the `/'.
name This is the name of the child. The child's index number is printed after it. If the child is a member of a cycle, the cycle number is printed between the name and the index number.
If there are any cycles (circles) in the call graph, there is an entry for the cycle-as-a-whole. This entry shows who called the cycle (as parents) and the members of the cycle (as children.) The `+' recursive calls entry shows the number of function calls that were internal to the cycle, and the calls entry for each member shows, for that member, how many times it was called from other members of the cycle.
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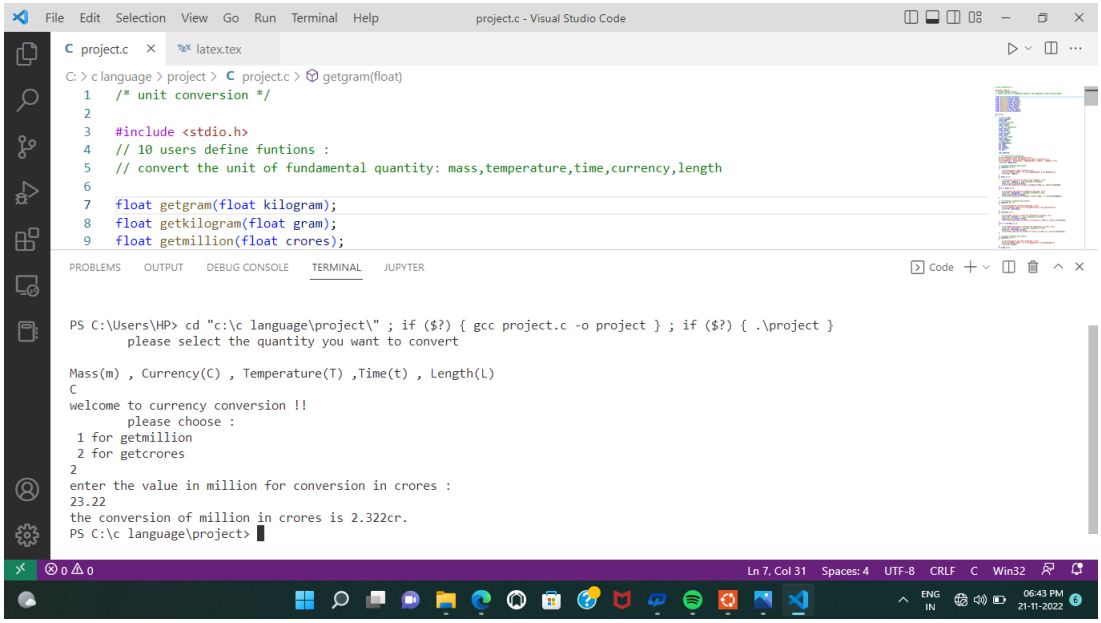
Index by function name
[1] getmillion
Ln 66, Col 61
16°C
Haze

0.2.3 CODE OUTPUT :

The screenshoot of c code output are :



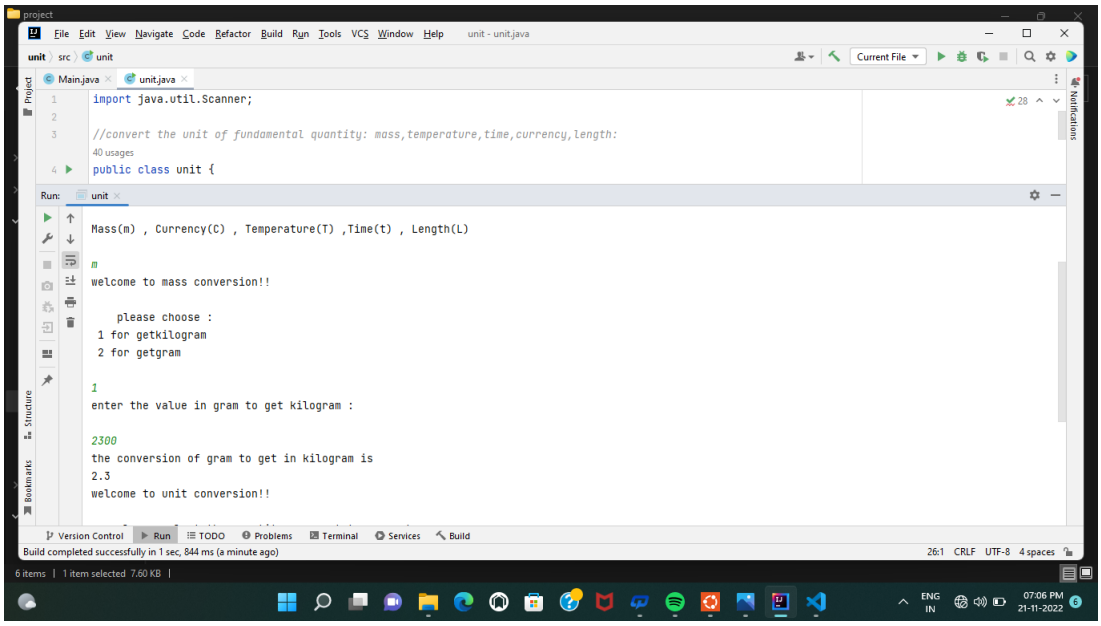
0.3 In java language :

no. of code line is : **168**

The project made with 10 user define function in c language and now we convert into java language:

0.3.1 CODE OUTPUT :

The screenshoot of java code output are :



END OF REPORT