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MATRIC NO; 18/ENG01/012

DEPARTMENT; CHEMICAL ENGINEERING

ENG 224 STRUCTURED COMPUTER PROGRAMMING

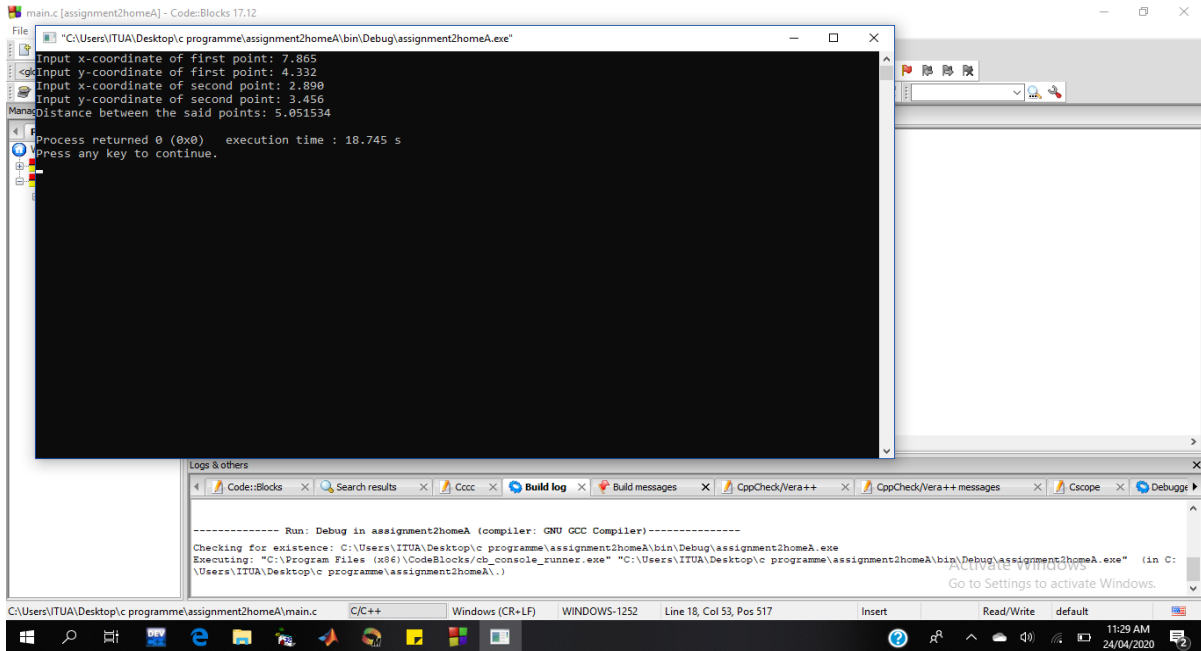
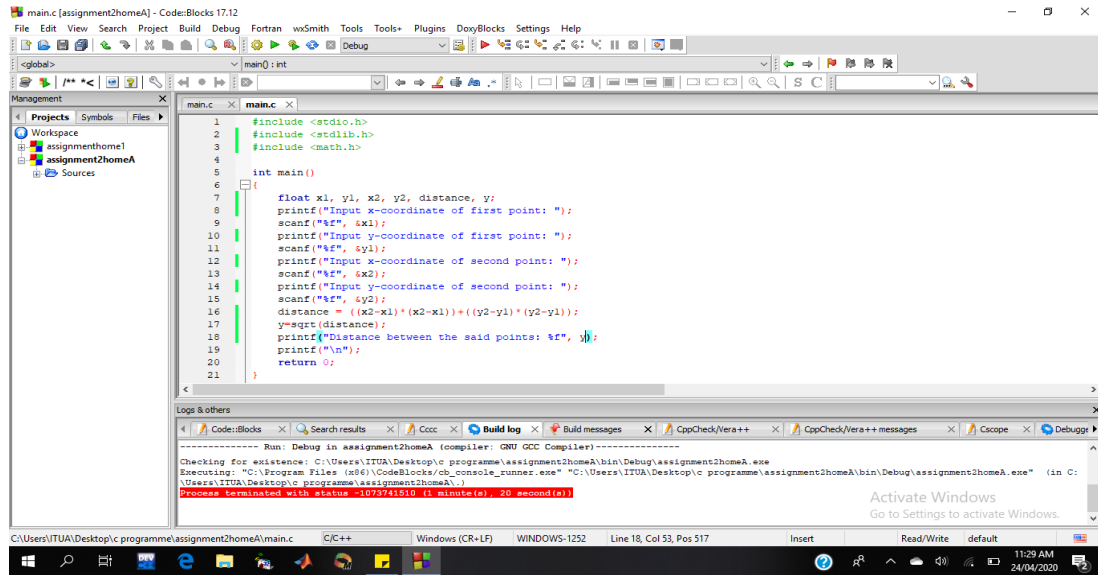
ASSIGNMENT

```
1. #include <stdio.h>
#include <stdlib.h>
int main()
{
    int days, weeks, years;
    int a,b;
    printf("ENTER NUMBER OF DAYS=");
    scanf("%d",&days);
    years= days/356;
    a=days%356;
    weeks= days/7;
    b=days%7;
    printf("\n number of days is equal %d", days);
    printf("\n number of years is equal %d", years);
    printf("\n number of days left with years %d", a);
    printf("\n number of weeks %d", weeks);
    printf("\n number of days left with weeks %d", b);
    return 0;
}
```

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main()
5 {
6     int days, weeks, years;
7     int a, b;
8     printf("ENTER NUMBER OF DAYS=");
9     scanf("%d", &days);
10    years= days/365;
11    a=days%365;
12    weeks= a/7;
13    b=days%7;
14    printf("\n number of days is equal %d", days);
15    printf("\n number of years is equal %d", years);
16    printf("\n number of days left with years %d", a);
17    printf("\n number of weeks %d", weeks);
18    printf("\n number of days left with weeks %d", b);
19    return 0;
20 }
21
```

```
ENTER NUMBER OF DAYS=1343
number of days is equal 1343
number of years is equal 3
number of days left with years 275
number of weeks 191
number of days left with weeks 6
Process returned 0 (0x0)   execution time : 5.595 s
Press any key to continue.
```

```
2. #include <stdio.h>
#include <stdlib.h>
#include <math.h>
int main()
{
    float x1, y1, x2, y2, distance, y;
        printf("Input x-coordinate of first point: ");
        scanf("%f", &x1);
        printf("Input y-coordinate of first point: ");
        scanf("%f", &y1);
    printf("Input x-coordinate of second point: ");
        scanf("%f", &x2);
        printf("Input y-coordinate of second point: ");
        scanf("%f", &y2);
        distance = ((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1));
        y=sqrt(distance);
        printf("Distance between the said points: %f", y);
        printf("\n");
        return 0;
}
```



```
3. #include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

```
    float a, b, c, Perimeter, Area;
```

```
    printf("\nEnter the first value a: ");
```

```
    scanf("%f", &a);
```

```
    printf("\nEnter the second value b: ");
```

```
    scanf("%f", &b);
```

```
    printf("\nEnter the third value c: ");
```

```
    scanf("%f", &c);
```

```
    if(a < (b+c) && b < (a+c) && c < (b+a)){
```

```
        Perimeter = a+b+c;
```

```
        printf("\nPerimeter = %.1f\n", Perimeter);} 
```

```
    else
```

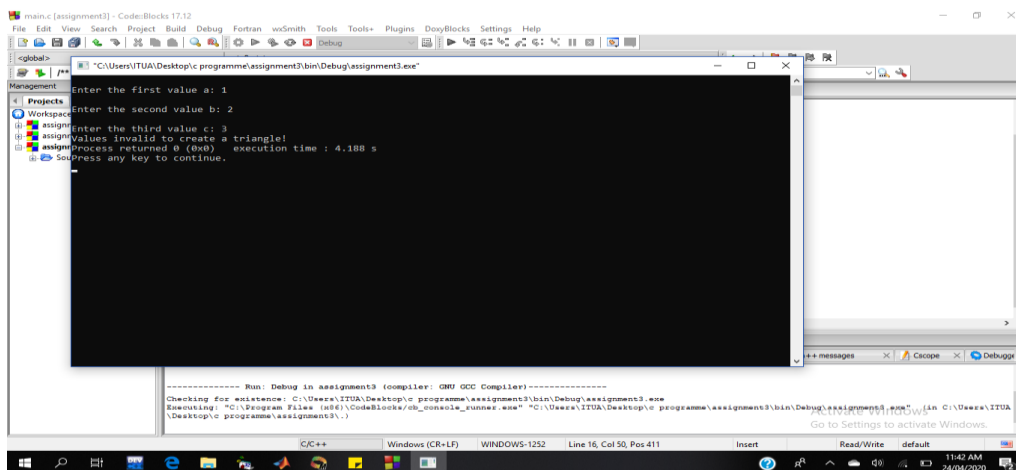
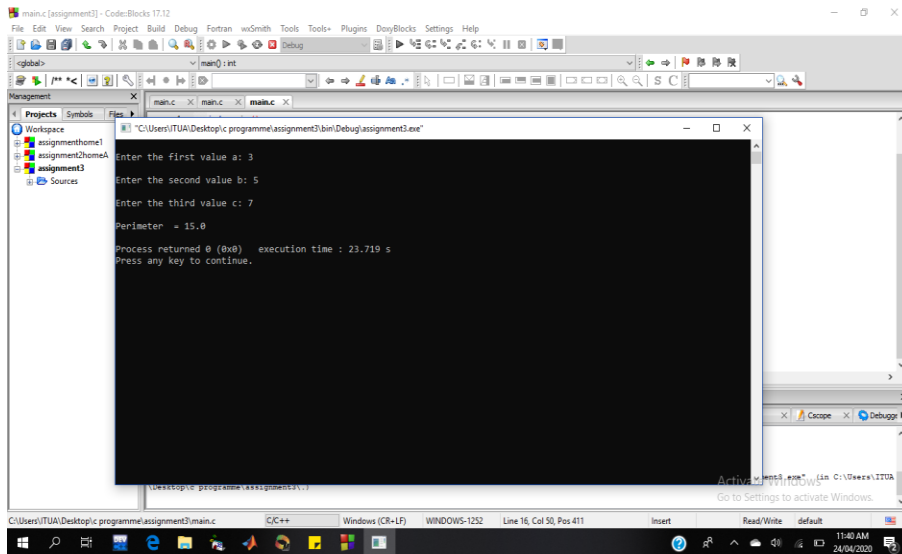
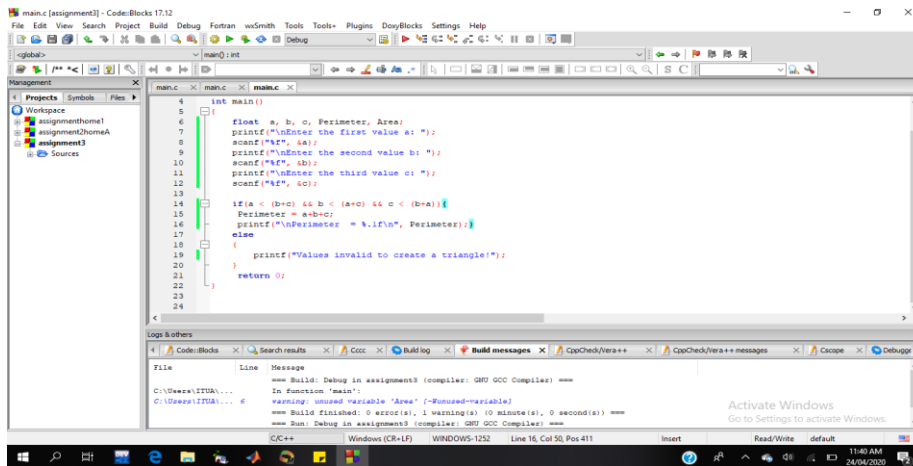
```
    {
```

```
        printf("Values invalid to create a triangle!");
```

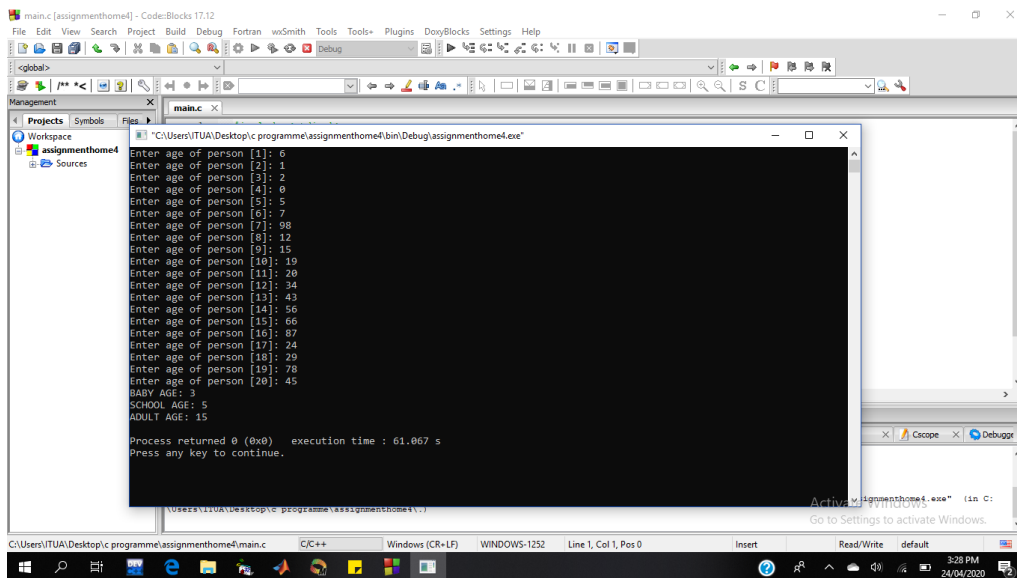
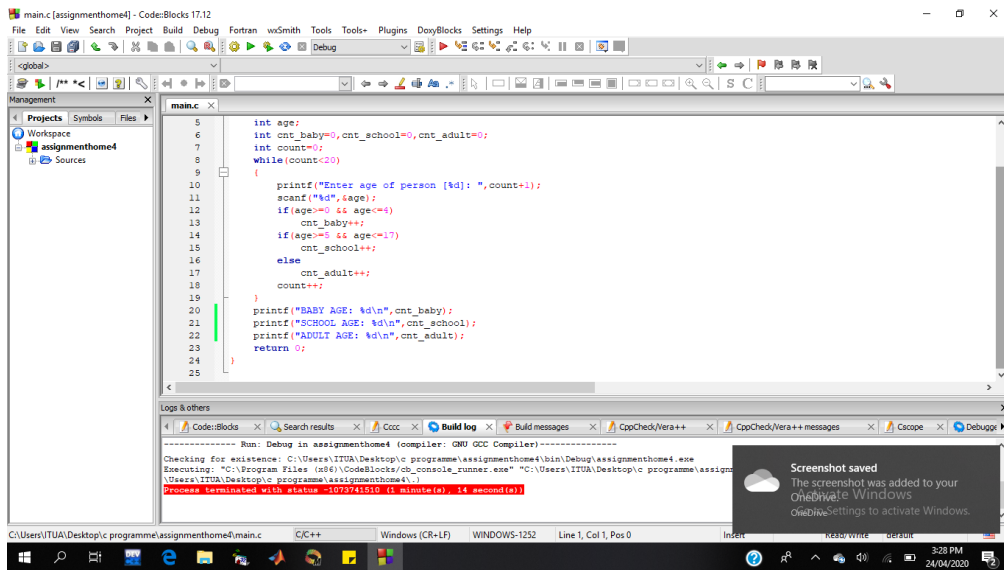
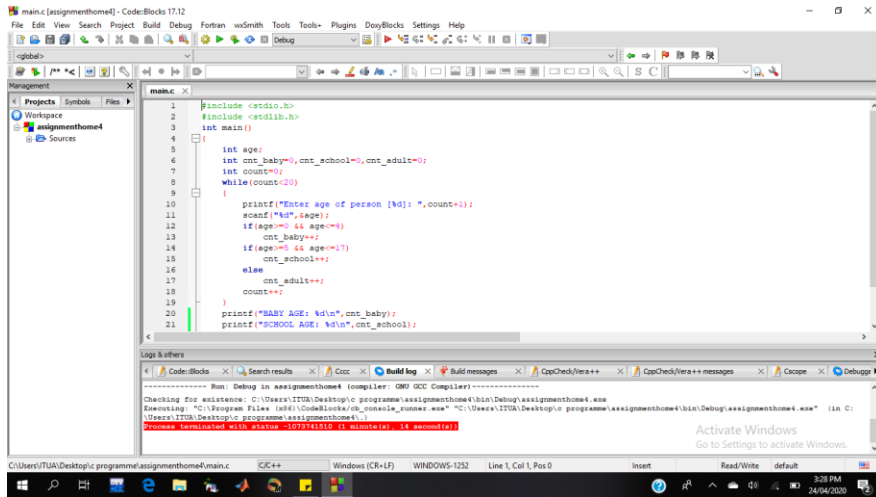
```
    }
```

```
    return 0;
```

```
}
```



```
4. #include <stdio.h>
#include <stdlib.h>
int main()
{
    int age;
    int cnt_baby=0,cnt_school=0,cnt_adult=0;
    int count=0;
    while(count<20)
    {
        printf("Enter age of person [%d]: ",count+1);
        scanf("%d",&age);
        if(age>=0 && age<=4)
            cnt_baby++;
        if(age>=5 && age<=17)
            cnt_school++;
        else
            cnt_adult++;
        count++;
    }
    printf("BABY AGE: %d\n",cnt_baby);
    printf("SCHOOL AGE: %d\n",cnt_school);
    printf("ADULT AGE: %d\n",cnt_adult);
    return 0;
}
```




```
5. #include <stdio.h>
#include <stdlib.h>
#include <time.h>
#include <math.h>

int main()
{
    int random_genNo=0,count=0,num;
    int shorttime;
    long longtime;

    longtime = time(NULL);
    shorttime = (unsigned)time/2;
    srand(shorttime);

    //generates random number
    random_genNo=rand()%100;

    //run infinite loop
    while(1)
    {
        //increase counter
        count+=1;

        //read number from user
        printf("\n\nENTER A NUMBER (0 to 100): ");
        scanf("%d",&num);

        //compare entered number with generated number
```

```

if(random_genNo==num){
    printf("CONGRATS, YOU HAVE GUESSED THE CORRECT NUMBER");
    break;
}
else if(random_genNo<num){
    printf("NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY
AGAIN");
}
else if(random_genNo>num){
    printf("NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY
AGAIN.");
}

if(count==7){
    printf("\n\nMAXIMUM NUMBER OF ATTEMPTS REACHED,TRY AGAIN NEXT
TIME!\n");
    break;
}
}
return 0;
}

```

The screenshot shows a C++ IDE with the following code in the editor:

```

1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <time.h>
4 #include <math.h>
5
6 int main()
7 {
8     int random_genNo=0,count=0,num;
9     int shorttime;
10    long longtime;
11
12    longtime = time(NULL);
13    shorttime = (unsigned)time/2;
14    srand(shorttime);
15
16    //generate random number
17    random_genNo=rand()%100;
18
19    //run infinite loop
20    while(1)
21    {

```

The console window shows the following output:

```

File Line Message
==== Build: Debug in assig5 (compiler: GNU GCC Compiler) ====
C:\Users\ITUA\... In function 'main':
C:\Users\ITUA\... 10 warning: variable 'longtime' set but not used [-Wunused-but-set-variable]
==== Build finished: 0 error(s), 1 warning(s) (0 minute(s), 0 second(s)) ====
==== Run: Debug in assig5 (compiler: GNU GCC Compiler) ====

```

```

main.c [asssig5] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoryBlocks Settings Help
<global>
main() int
Management
Projects | Symbols | Files
Workspace
asssig5
Sources
main.c
21 |
22 | //generate number
23 | count++;
24 |
25 | //read number from user
26 | printf("\nENTER A NUMBER (0 to 100): ");
27 | scanf("%d",&num);
28 |
29 | //compare entered number with generated number
30 |
31 | if(random_genNo==num)
32 |     printf("CONGRATS, YOU HAVE GUESSED THE CORRECT NUMBER");
33 |     break;
34 |
35 | else if (random_genNo<num)
36 |     printf("NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY AGAIN");
37 |
38 | else if (random_genNo>num)
39 |     printf("NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.");
40 |
41 |

```

Build messages

```

==== Build: Debug in asssig5 (compiler: GNU GCC Compiler) ====
In function 'main':
C:\Users\ITUA\... 10 warning: variable 'longtime' set but not used (-Wunused-but-set-variable)
==== Build finished: 0 error(s), 1 warning(s) (0 minute(s), 0 second(s)) ====
Run: Debug in asssig5 (compiler: GNU GCC Compiler) ====

```

```

main.c [asssig5] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoryBlocks Settings Help
<global>
main() int
Management
Projects | Symbols | Files
Workspace
asssig5
Sources
main.c
30 |
31 | if(random_genNo==num)
32 |     printf("CONGRATS, YOU HAVE GUESSED THE CORRECT NUMBER");
33 |     break;
34 |
35 | else if (random_genNo<num)
36 |     printf("NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY AGAIN");
37 |
38 | else if (random_genNo>num)
39 |     printf("NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.");
40 |
41 |
42 | if(count==7){
43 |     printf("\n\nMAXIMUM NUMBER OF ATTEMPTS REACHED,TRY AGAIN NEXT TIME!\n\n");
44 |     break;
45 | }
46 |
47 |
48 |
49 | return 0;
50 |

```

Build messages

```

==== Build: Debug in asssig5 (compiler: GNU GCC Compiler) ====
In function 'main':
C:\Users\ITUA\... 10 warning: variable 'longtime' set but not used (-Wunused-but-set-variable)
==== Build finished: 0 error(s), 1 warning(s) (0 minute(s), 0 second(s)) ====
Run: Debug in asssig5 (compiler: GNU GCC Compiler) ====

```

```

main.c [asssig5] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoryBlocks Settings Help
"\"C:\Users\ITUA\Desktop\c\programme\asssig5\bin\Debug\asssig5.exe"
Management
ENTER A NUMBER (0 to 100): 90
NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY AGAIN
ENTER A NUMBER (0 to 100): 60
NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY AGAIN
ENTER A NUMBER (0 to 100): 20
NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.
ENTER A NUMBER (0 to 100): 30
NUMBER GENERATED IS LESS THAN NUMBER ENTERED!TRY AGAIN
ENTER A NUMBER (0 to 100): 25
NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.
ENTER A NUMBER (0 to 100): 22
NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.
ENTER A NUMBER (0 to 100): 23
NUMBER GENERATED IS GREATER THAN NUMBER ENTERED.TRY AGAIN.
MAXIMUM NUMBER OF ATTEMPTS REACHED,TRY AGAIN NEXT TIME!
Process returned 0 (0x0)   execution time : 43.772 s
Press any key to continue.

```

Build messages

```

----- Run: Debug in asssig5 (compiler: GNU GCC Compiler) -----
Checking for existence: C:\Users\ITUA\Desktop\c\programme\asssig5\bin\Debug\asssig5.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\Users\ITUA\Desktop\c\programme\asssig5\bin\Debug\asssig5.exe" /in C:\Users\ITUA\Desktop\c\programme\asssig5\

```

