SWT 11022 PRACTICAL FOR FUNDAMENTALS OF PROGRAMMING

DEPARTMENT OF ICT

FACULTY OF TECHNOLOGY

SOUTH-EASTERN UNIVERSITY OF SRI LANKA

PREPARING AND SUBMITTING THE LAB RECORD – 05

Registration Number – SEU/IS/20/ICT/019

Academic Year – 2020/2021

Date – 2022/11/17

Practical Number – 05_Thursday

Title – Repetition (for loop)

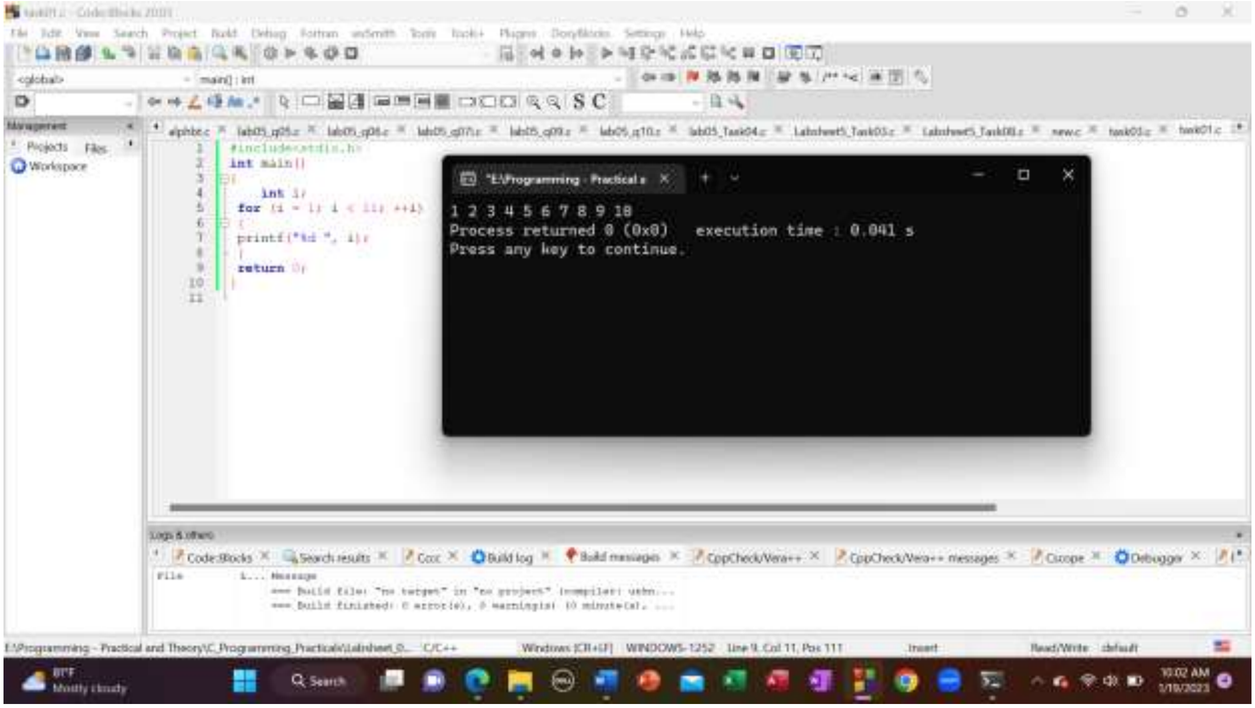
Aim(s) –

- Dealing with for loop and nested for loop

TASKS

01.

```
#include<stdio.h>
int main()
{
    int i;
 for (i = 1; i < 11; ++i)
 {
 printf("%d ", i);
 }
 return 0;
}
```



task01.c - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main() : int
Management
Projects Files
Workspace
alphbt.c lab05_q05.c lab05_q06.c lab05_q07.c lab05_q09.c lab05_q10.c lab05_Task04.c Labsheet5_Task03.c Labsheet5_Task08.c new.c task03.c task01.c
"E:\Programming - Practical a
Logs & others
Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger
E:\Programming - Practical and Theory\C_Programming_Practicals\Labsheet_0... C/C++ Windows (CR+LF) WINDOWS-1252 Line 9, Col 11, Pos 111 Insert Read/Write default
81°F Mostly cloudy
Search
10:02 AM 1/19/2023

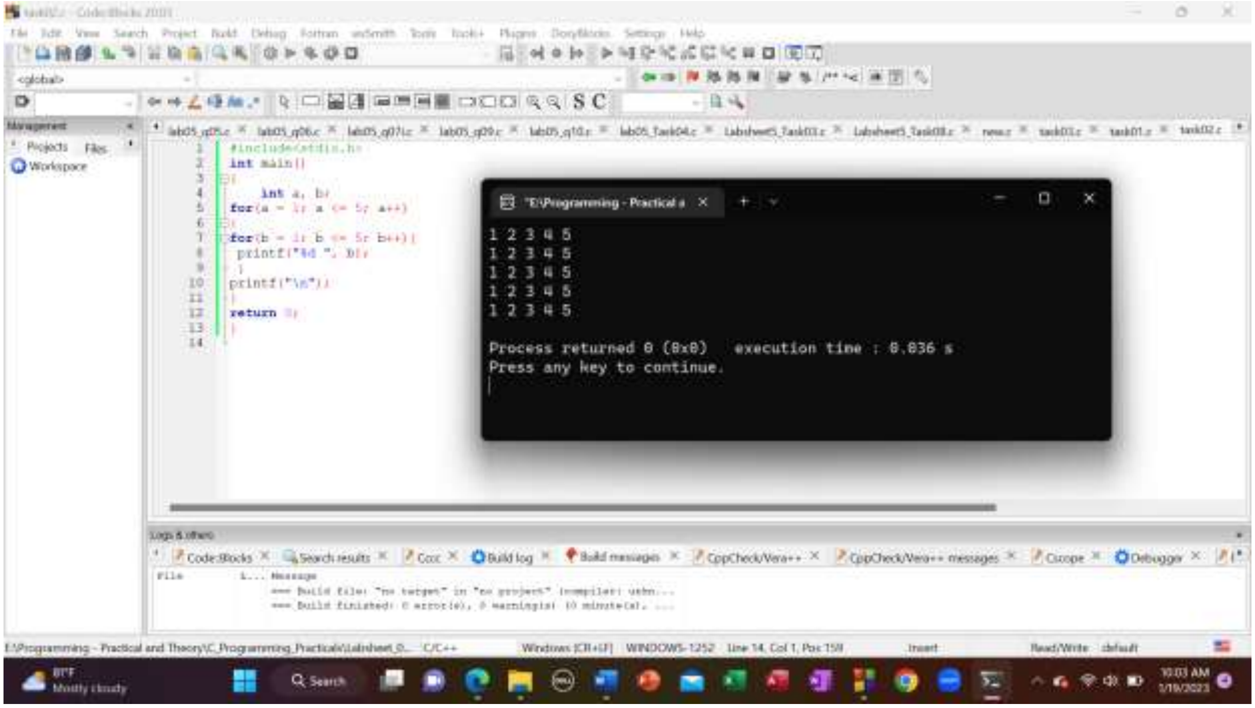
```
#include<stdio.h>
int main()
{
    int i;
 for (i = 1; i < 11; ++i)
 {
 printf("%d ", i);
 }
 return 0;
}
```

```
1 2 3 4 5 6 7 8 9 10
Process returned 0 (0x0)   execution time : 0.041 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

02.

```
#include<stdio.h>

int main()

{

   int a, b;

for(a = 1; a <= 5; a++)

{

for(b = 1; b <= 5; b++){

 printf("%d ", b);

 }

printf("\n");

}

return 0;

}
```



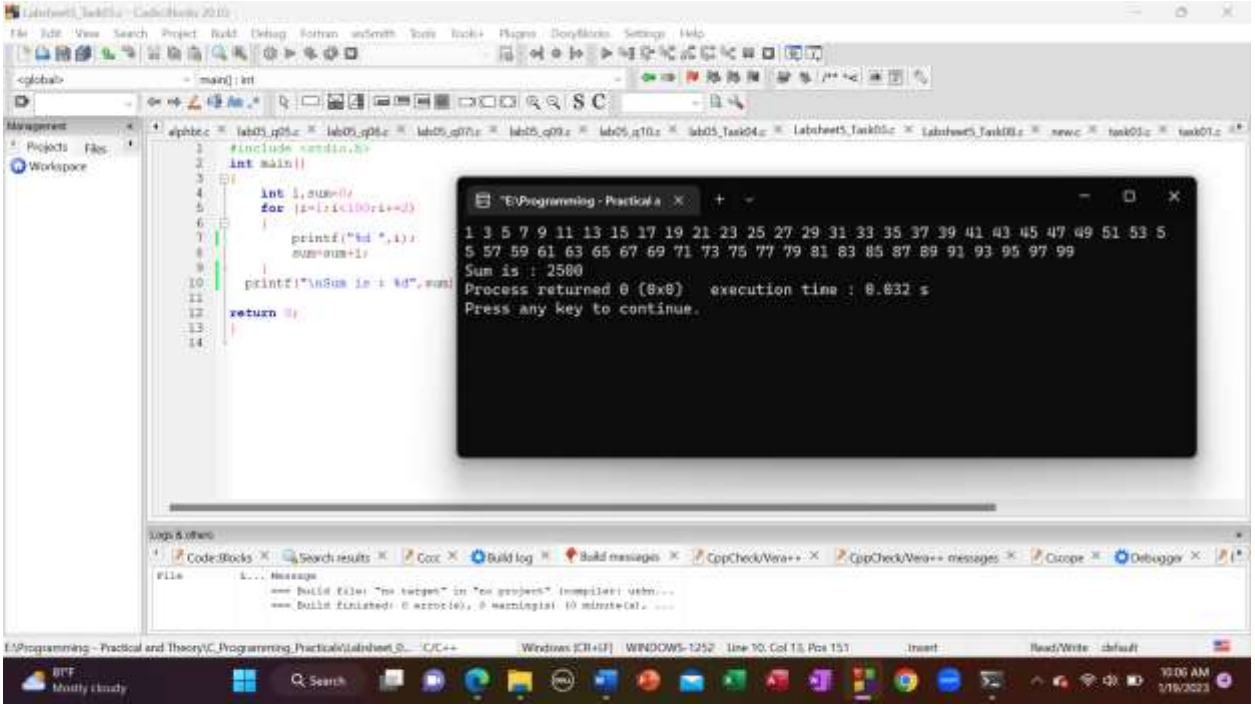
```
#include<stdio.h>
int main()
{
    int a, b;
for(a = 1; a <= 5; a++)
{
for(b = 1; b <= 5; b++){
 printf("%d ", b);
 }
printf("\n");
}
return 0;
}
```

```
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5

Process returned 0 (0x0)   execution time : 0.036 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

03.

```c
#include <stdio.h>

int main()

{

   int i,sum=0;

   for (i=1;i<100;i+=2)

   {

      printf("%d ",i);

      sum=sum+i;

   }

  printf("\nSum is : %d",sum);

return 0;

}
```

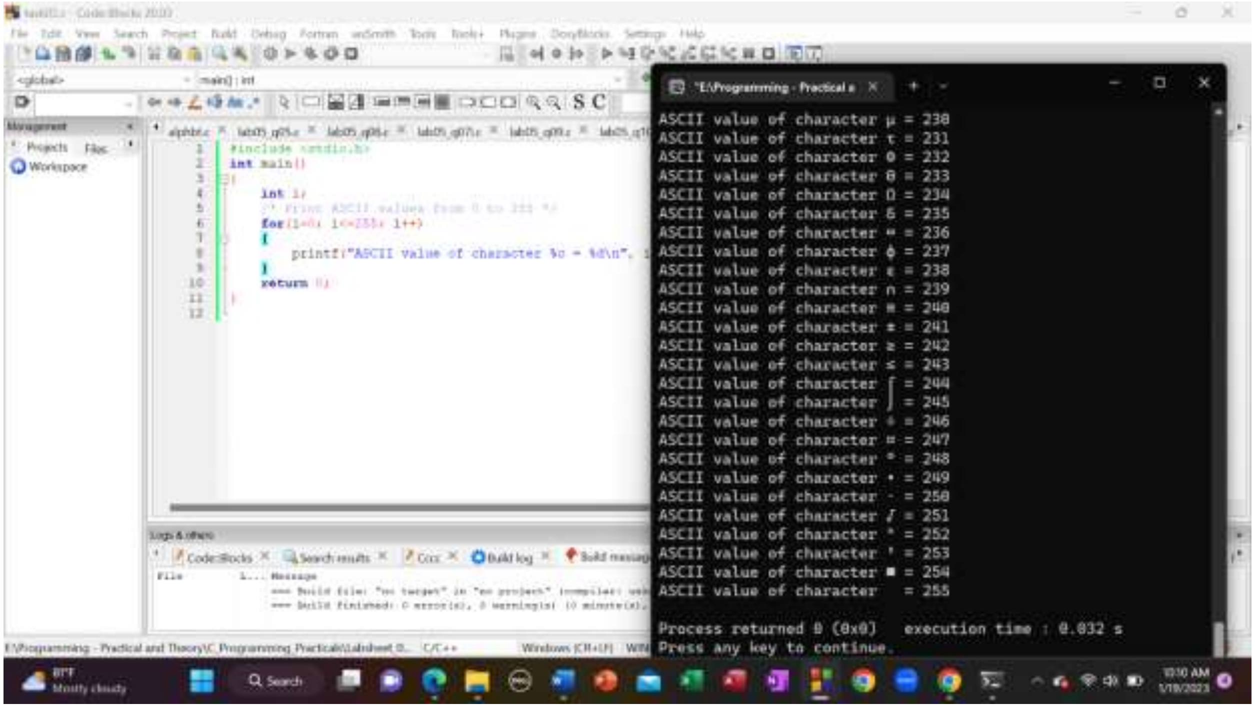


```c
#include <stdio.h>
int main()
{
    int i,sum=0;
    for (i=1;i<100;i+=2)
    {
        printf("%d ",i);
        sum=sum+i;
    }
  printf("\nSum is : %d",sum

return 0;
}
```

```
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 5
5 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99
Sum is : 2500
Process returned 0 (0x0)   execution time : 0.032 s
Press any key to continue.
```

04.

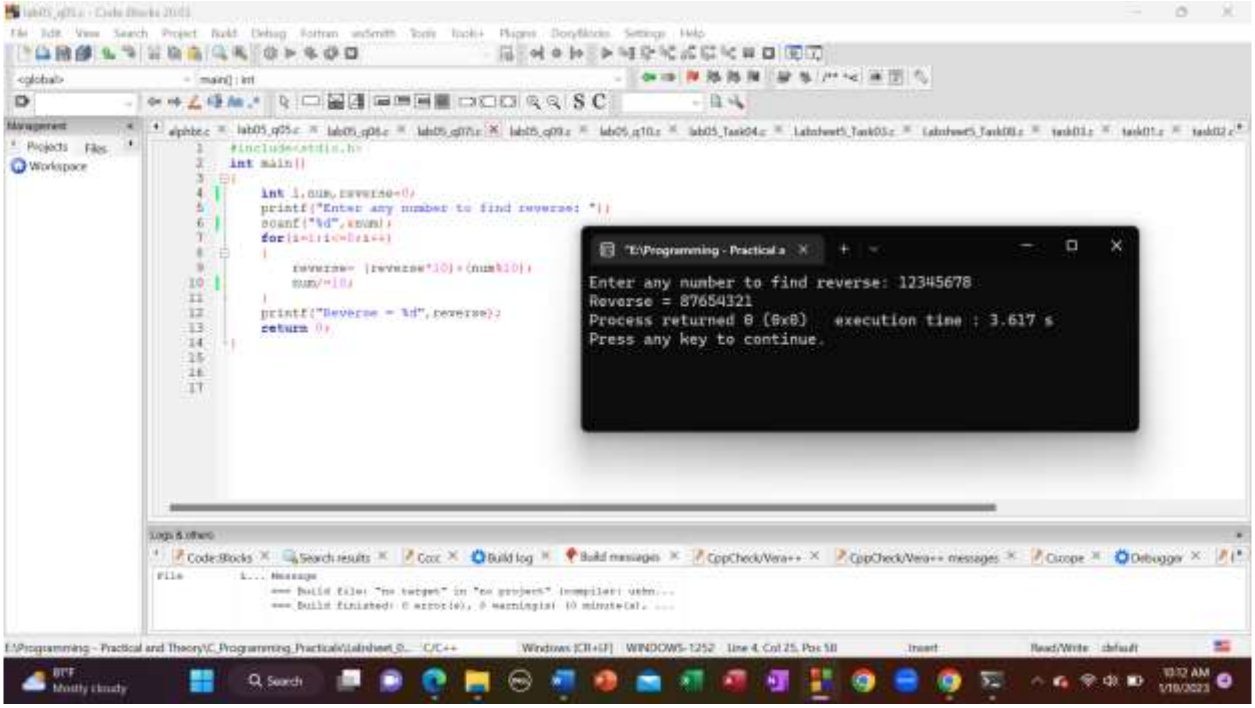
```
#include <stdio.h>

int main()

{

   int i;

   /* Print ASCII values from 0 to 255 */

   for(i=0; i<=255; i++)

   {

      printf("ASCII value of character %c = %d\n", i, i);

   }

   return 0;

}
```



```
ASCII value of character µ = 230
ASCII value of character τ = 231
ASCII value of character Φ = 232
ASCII value of character Θ = 233
ASCII value of character Ω = 234
ASCII value of character δ = 235
ASCII value of character ∞ = 236
ASCII value of character φ = 237
ASCII value of character ε = 238
ASCII value of character ∩ = 239
ASCII value of character ≡ = 240
ASCII value of character ± = 241
ASCII value of character ≥ = 242
ASCII value of character ≤ = 243
ASCII value of character ⌠ = 244
ASCII value of character ⌡ = 245
ASCII value of character ÷ = 246
ASCII value of character ≈ = 247
ASCII value of character ° = 248
ASCII value of character ∙ = 249
ASCII value of character · = 250
ASCII value of character √ = 251
ASCII value of character ⁿ = 252
ASCII value of character ² = 253
ASCII value of character ■ = 254
ASCII value of character   = 255

Process returned 0 (0x0)   execution time : 0.032 s
Press any key to continue.
```

05.

```c
#include<stdio.h>

int main()

{

   int i,num,reverse=0;

   printf("Enter any number to find reverse: ");

   scanf("%d",&num);

   for(i=1;i<=8;i++)

   {

      reverse= (reverse*10)+(num%10);

      num/=10;

   }

   printf("Reverse = %d",reverse);

   return 0;

}
```



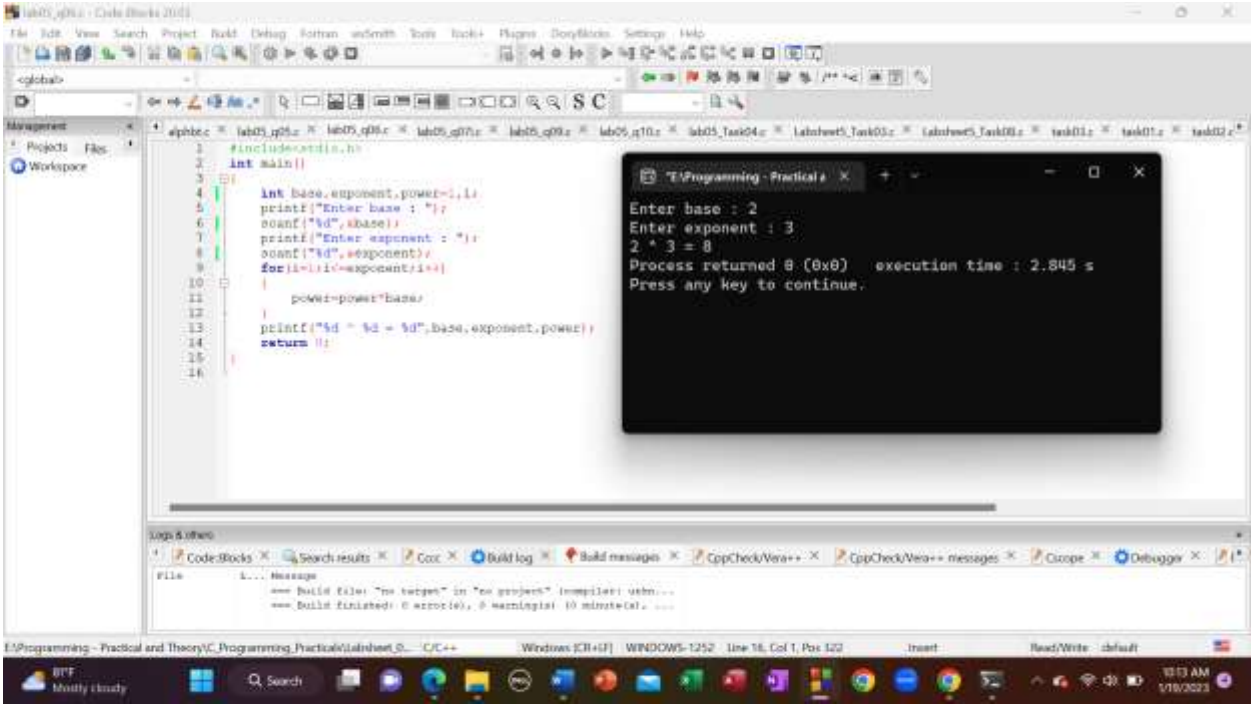
```c
#include<stdio.h>
int main()
{
    int i,num,reverse=0;
    printf("Enter any number to find reverse: ");
    scanf("%d",&num);
    for(i=1;i<=8;i++)
    {
        reverse= (reverse*10)+(num%10);
        num/=10;
    }
    printf("Reverse = %d",reverse);
    return 0;
}
```

```
Enter any number to find reverse: 12345678
Reverse = 87654321
Process returned 0 (0x0)   execution time : 3.617 s
Press any key to continue.
```

```
File       L... Message
                === Build file: "no target" in "no project" (compiler: unkn...
                === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

06.

```
#include<stdio.h>

int main()

{

    int base,exponent,power=1,i;

    printf("Enter base : ");

    scanf("%d",&base);

    printf("Enter exponent : ");

    scanf("%d",&exponent);

    for(i=1;i<=exponent;i++)

    {

        power=power*base;

    }

    printf("%d ^ %d = %d",base,exponent,power);

    return 0;

}
```



```
#include<stdio.h>
int main()
{
    int base,exponent,power=1,i;
    printf("Enter base : ");
    scanf("%d",&base);
    printf("Enter exponent : ");
    scanf("%d",&exponent);
    for(i=1;i<=exponent;i++)
    {
        power=power*base;
    }
    printf("%d ^ %d = %d",base,exponent,power);
    return 0;
}
```

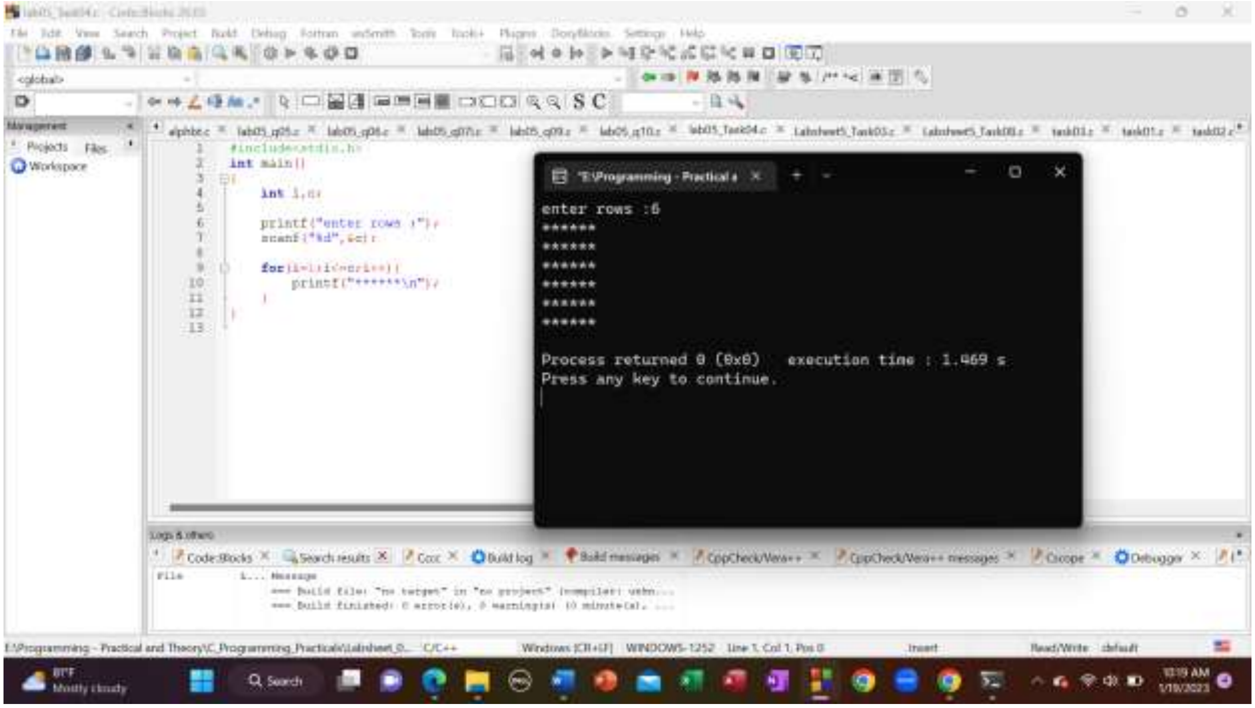
```
Enter base : 2
Enter exponent : 3
2 ^ 3 = 8
Process returned 0 (0x0)   execution time : 2.845 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

lab05_q06.c - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
Management
Projects Files
Workspace
alphbe.c lab05_q05.c lab05_q06.c lab05_q07.c lab05_q09.c lab05_q10.c lab05_Task04.c Labsheet5_Task03.c Labsheet5_Task08.c task01.c task01.c task02.c
E:\Programming - Practical a
Logs & others
Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger
E:\Programming - Practical and Theory\C_Programming_Practicals\Labsheet_0... C/C++ Windows (CR+LF) WINDOWS-1252 Line 16, Col 1, Pos 322 Insert Read/Write default
81°F Mostly cloudy
Search
10:13 AM 1/18/2023

07.

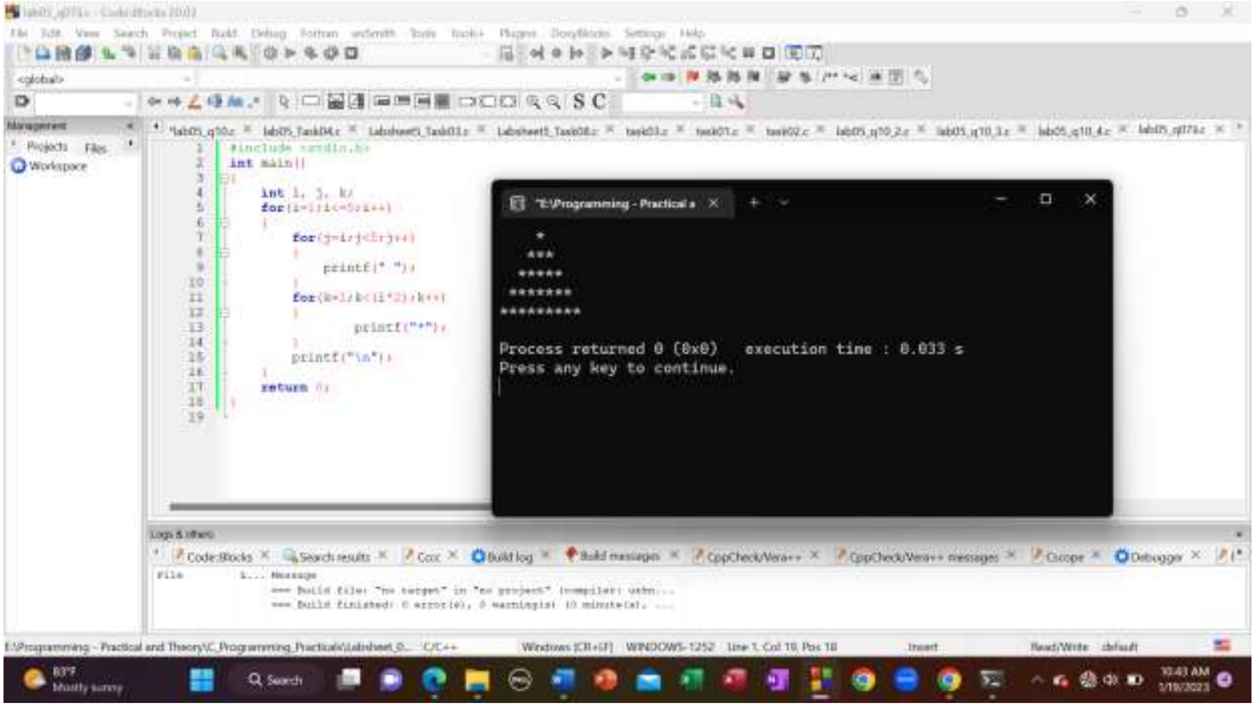
```
#include<stdio.h>

int main()

{

   int i,c;


   printf("enter rows :");

   scanf("%d",&c);


   for(i=1;i<=c;i++){

      printf("******\n");

   }

   return 0;

}
```



```
#include<stdio.h>
int main()
{
    int i,c;

    printf("enter rows :");
    scanf("%d",&c);

    for(i=1;i<=c;i++){
        printf("******\n");
    }
}
```

```
enter rows :6
******
******
******
******
******
******

Process returned 0 (0x0)   execution time : 1.469 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
#include <stdio.h>
int main()
{
    int i, j, k;
    for(i=1;i<=5;i++)
    {
        for(j=i;j<5;j++)
        {
            printf(" ");
        }
        for(k=1;k<(i*2);k++)
        {
                printf("*");
        }
        printf("\n");
    }
    return 0;
}
```



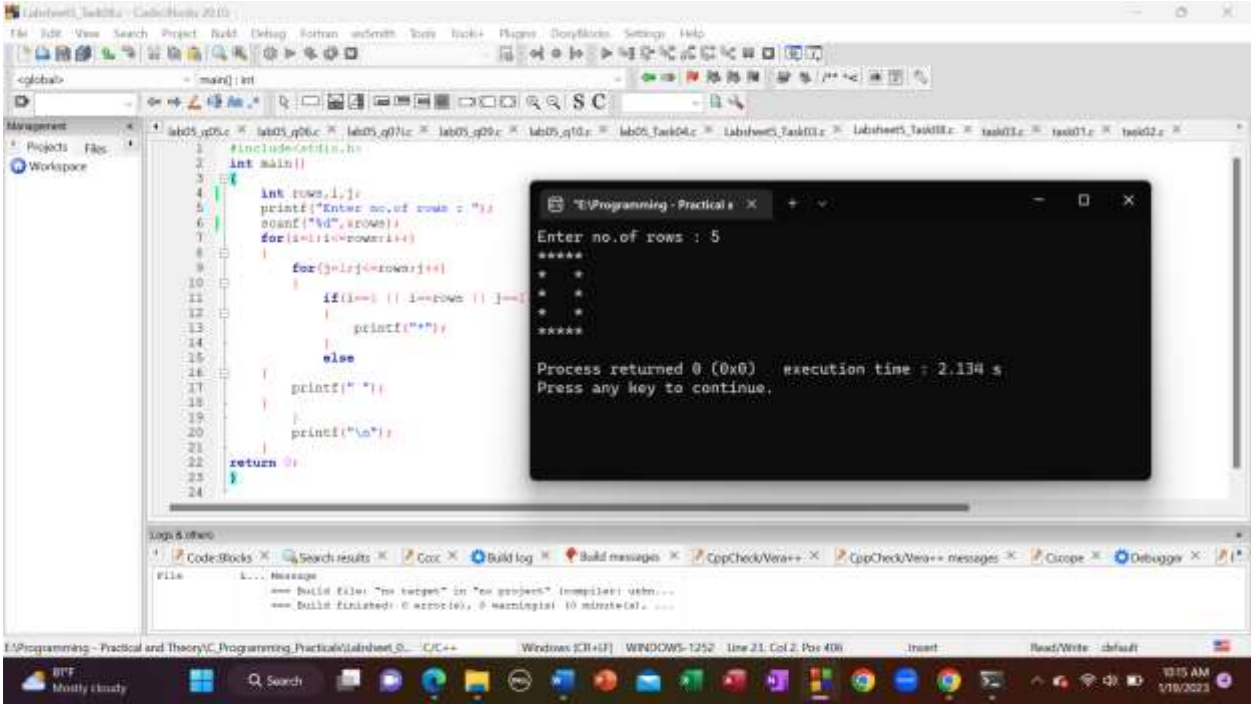
```
#include <stdio.h>
int main()
{
    int i, j, k;
    for(i=1;i<=5;i++)
    {
        for(j=i;j<5;j++)
        {
            printf(" ");
        }
        for(k=1;k<(i*2);k++)
        {
                printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

```
    *
   ***
  *****
 *******
*********

Process returned 0 (0x0)   execution time : 0.033 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

08.

```
#include<stdio.h>
int main()
{
  int rows,i,j;
  printf("Enter no.of rows : ");
  scanf("%d",&rows);
  for(i=1;i<=rows;i++)
  {
    for(j=1;j<=rows;j++)
    {
      if(i==1 || i==rows || j==1 || j==rows)
      {
        printf("*");
      }
      else
  {
        printf(" ");
    }
        }
        printf("\n");
    }
return 0;
}
```



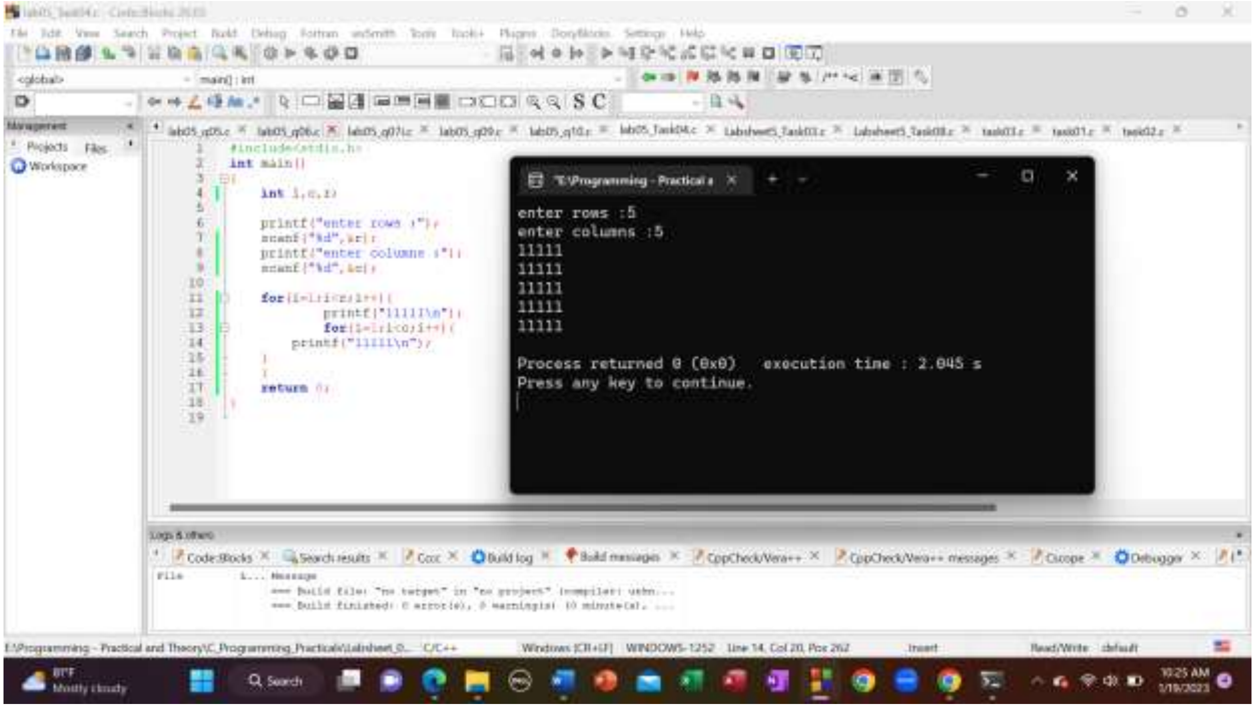
```
#include<stdio.h>
int main()
{
    int rows,i,j;
    printf("Enter no.of rows : ");
    scanf("%d",&rows);
    for(i=1;i<=rows;i++)
    {
        for(j=1;j<=rows;j++)
        {
            if(i==1 || i==rows || j==
            {
                printf("*");
            }
            else
    {
        printf(" ");
    }
        }
        printf("\n");
    }
return 0;
}
```

```
Enter no.of rows : 5
*****
*   *
*   *
*   *
*****

Process returned 0 (0x0)   execution time : 2.134 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

09.

```
#include<stdio.h>
int main()
{
    int i,c,r;

    printf("enter rows :");
    scanf("%d",&r);
    printf("enter columns :");
    scanf("%d",&c);
    for(i=1;i<r;i++){

            printf("11111\n");

            for(i=1;i<c;i++){

        printf("11111\n");

    }

    }

    return 0;

}
```



```
#include<stdio.h>
int main()
{
    int i,c,r;

    printf("enter rows :");
    scanf("%d",&r);
    printf("enter columns :");
    scanf("%d",&c);

    for(i=1;i<r;i++){
            printf("11111\n");
            for(i=1;i<c;i++){
        printf("11111\n");
    }
    }
    return 0;
}
```

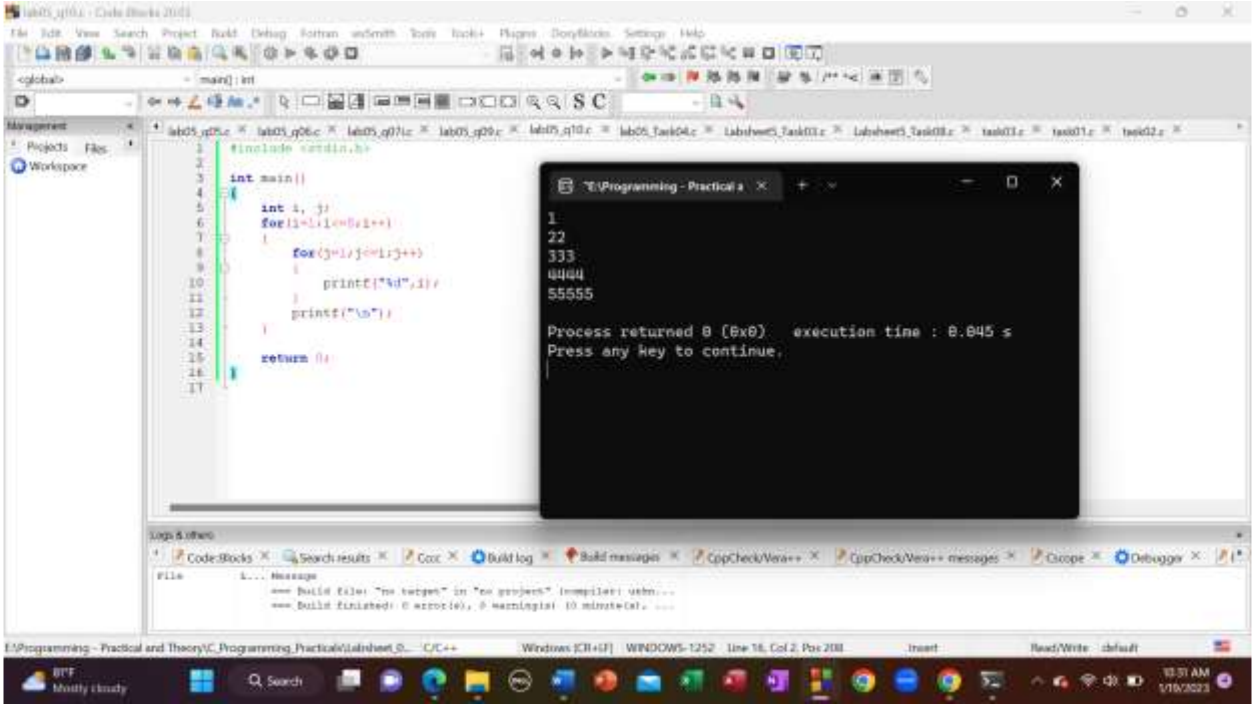
```
enter rows :5
enter columns :5
11111
11111
11111
11111
11111

Process returned 0 (0x0)   execution time : 2.045 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

10.

a.

```
#include <stdio.h>

int main()

{

    int i, j;

    for(i=1;i<=5;i++)

    {
        for(j=1;j<=i;j++)
        {
            printf("%d",i);
        }
        printf("\n");
    }
    return 0;
}
```



```
#include <stdio.h>

int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d",i);
        }
        printf("\n");
    }

    return 0;
}
```

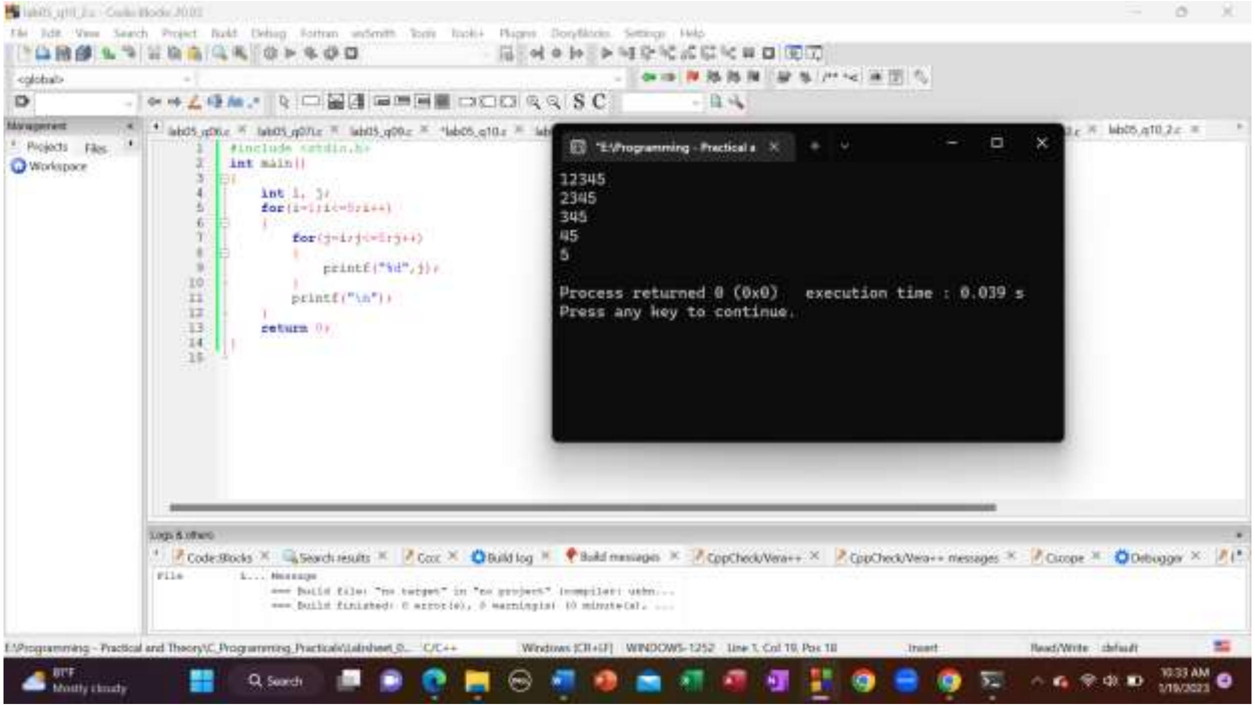
```
1
22
333
4444
55555

Process returned 0 (0x0)   execution time : 0.045 s
Press any key to continue.
```

```
File       L... Message
                === Build file: "no target" in "no project" (compiler: unkn...
                === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

Code::Blocks 20.03
E:\Programming - Practical a
Windows (CR+LF)   WINDOWS-1252   Line 16, Col 2, Pos 208   Insert   Read/Write   default

b.

```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=i;j<=5;j++)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    return 0;
}
```



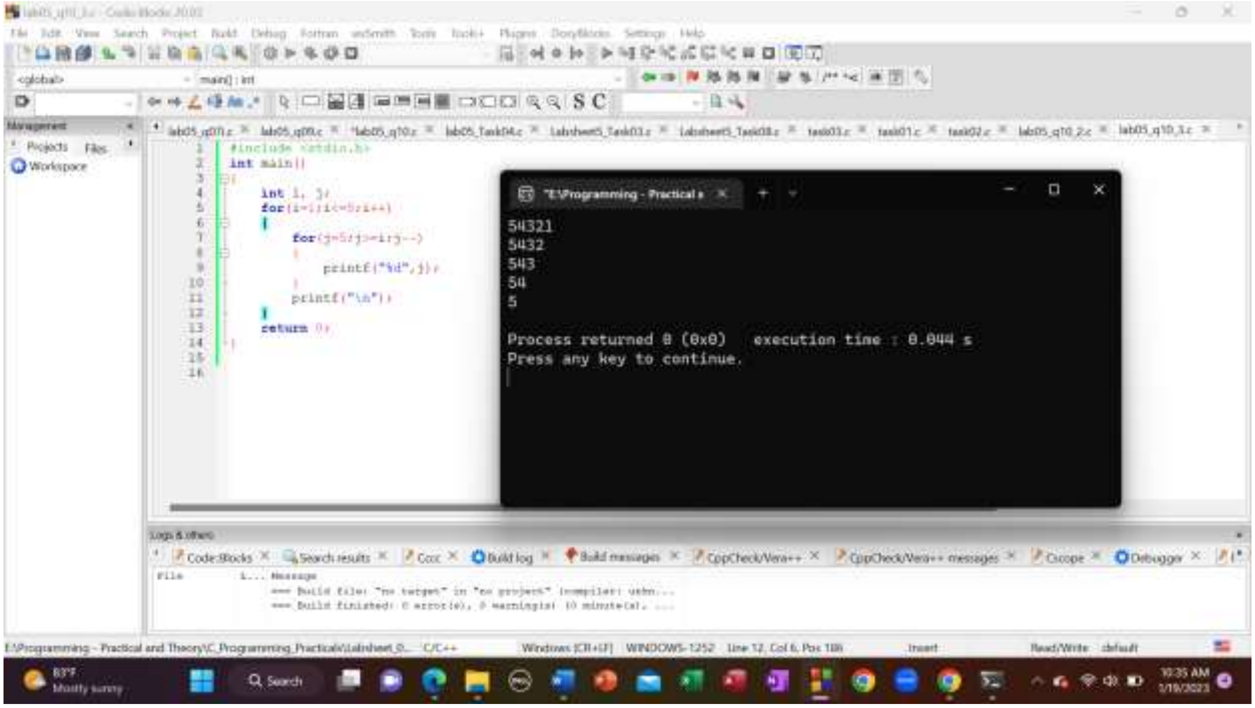
```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=i;j<=5;j++)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    return 0;
}
```

```
12345
2345
345
45
5

Process returned 0 (0x0)   execution time : 0.039 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

c.

```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>=i;j--)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    return 0;
}
```

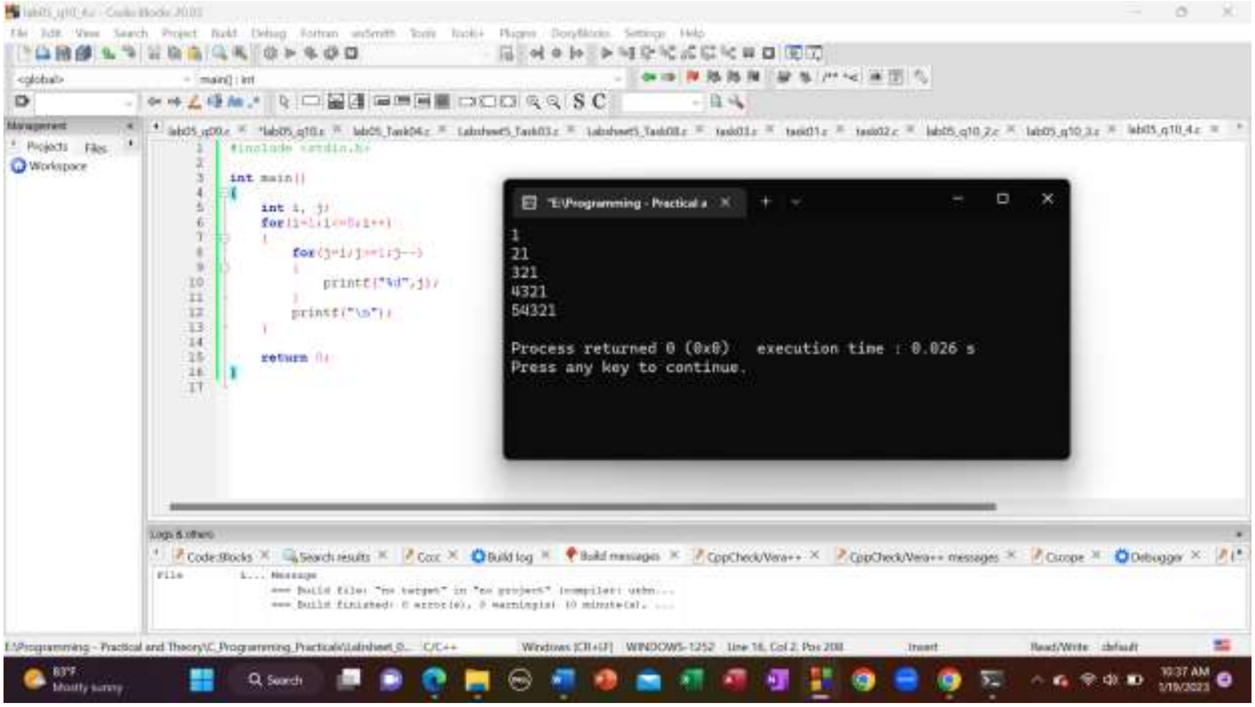


```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>=i;j--)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    return 0;
}
```

```
54321
5432
543
54
5

Process returned 0 (0x0)   execution time : 0.044 s
Press any key to continue.
```

d.

```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=i;j>=1;j--)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    return 0;
}
```



```c
#include <stdio.h>

int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=i;j>=1;j--)
        {
            printf("%d",j);
        }
        printf("\n");
    }

    return 0;
}
```

```
1
21
321
4321
54321

Process returned 0 (0x0)   execution time : 0.026 s
Press any key to continue.
```

```
File        L... Message
                 === Build file: "no target" in "no project" (compiler: unkn...
                 === Build finished: 0 error(s), 0 warning(s) (0 minute(s), ...
```

Discussion: We have discussed the for loop and nested for loop, and now I can code with the nested for loop and for loop statements.

References:

C for loop. (n.d.). W3schools.com. Retrieved March 25, 2023, from https://www.w3schools.com/c/c_for_loop.php

C for Loop (with examples) – algbly. (n.d.). Algbly.com. Retrieved March 25, 2023, from https://www.algbly.com/Tutorials/C-programming/C-for-loop.html