LAB4:Using printf/scanf

Task1: write a program to print hello on screen

|  |
| --- |
| Using printf |
| #include<stdio.h>  #include<conio.h>  void main()  {  printf("hello ");  getchar();  } |

Please remember to use open and close paranthesis after the name printf. Every function in C, must have open/close paranthesis.

Task2: Write a program to print numbers 1 to 5 on screen using a loop

|  |  |
| --- | --- |
|  | Using printf |
|  | #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=1;i<=5;i++)  printf("%d",i);  getchar();  } |
| The output of these programs are: 12345 | |
| Print the numbers separated by a single space | |
|  | #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=1;i<=5;i++)  printf("%d ",i);  getchar();  } |
| The output of these programs are: 1 2 3 4 5 | |
| Print numbers separated by a tab | |
|  | #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=1;i<=5;i++)  printf("%d\t",i);  getchar();  } |
| The output of these programs are: 1 2 3 4 5 | |
| Print numbers on separate lines | |
|  | #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=1;i<=5;i++)  printf("%d\n",i);  getchar();  } |
| The output of these programs are:  1  2  3  4  5 | |

Formatted output

Width specifier: %3d means you want to print an integer and width is at least 3 characters wide

|  |  |
| --- | --- |
| program | output |
| #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=8;i<=15;i++)  printf("%d\n",i);  getchar();  } | 8  9  10  11  12  13  14  15 |

|  |  |
| --- | --- |
| program | output |
| #include<stdio.h>  #include<conio.h>  void main()  {  for(int i=8;i<=15;i++)  printf("%3d\n",i);  getchar();  } | 8  9  10  11  12  13  14  15 |

|  |  |
| --- | --- |
| program | output |
| #include<stdio.h>  #include<conio.h>  void main()  {  int a=-4;  int b=4;  printf("%d\n",a);  printf("%d\n",b);  getchar();  } | -4  4 |

|  |  |
| --- | --- |
| Program | output |
| #include<stdio.h>  #include<conio.h>  void main()  {  int a=-4;  int b=4;  printf("%12d\n",a);  printf("%12d\n",b);  getchar();  } | -4  4 |

{

int a=-4;

int b=4;

int c=4444;

printf("%-4d\n",c);

printf("%-4d\n",a);

printf("%-4d\n",b);

getchar();

}

For left justification we use – sign. Normally the numbers are left justified anyway.

*If you want to print more than one variable in a single printf statement, you list the format specifiers inside the double quotes and for each format specifier, you provide a comma separated list of variables.*

#include<stdio.h>

#include<conio.h>

void main()

void main()

{

int a=-4;

int b=4;

printf("%d %d\n",a,b);

getchar();

}

Exercises:

1-Write a program to print a triangle of integer numbers as shown below using printf:

1

12

123

1234

12345

Answer:

#include<stdio.h>

#include<conio.h>

void main()

void main()

{

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

{

for(int j=1;j<=i;j++)

printf("%d",j);

printf("\n");

getchar();

}/\*end of for\*/

}/\*end of main\*/

2-Modify the previous program to print the numbers as right justified in a 2-character wide spaces

Answer

#include<stdio.h>

#include<conio.h>

void main()

void main()

{

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

{

for(int j=1;j<=i;j++)

printf(**"%2d**",j);

printf("\n");

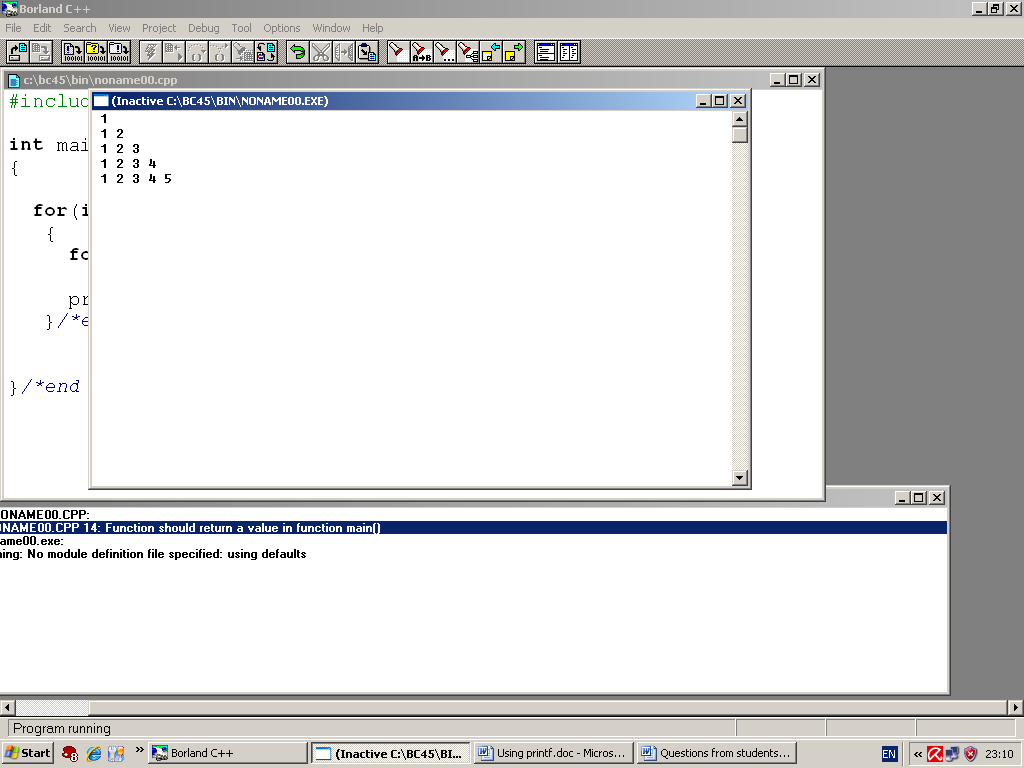
getchar();

}/\*end of for\*/

}/\*end of main\*/

Please notice that since each value printed is a single character, this is as if we left one blank before each number.

Output



3- Modify the previous program so that the numbers are left justified in 2-character wide spaces.

Answer:

#include<stdio.h>

#include<conio.h>

void main()

{

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

{

for(int j=1;j<=i;j++)

printf**("%-2d**",j);

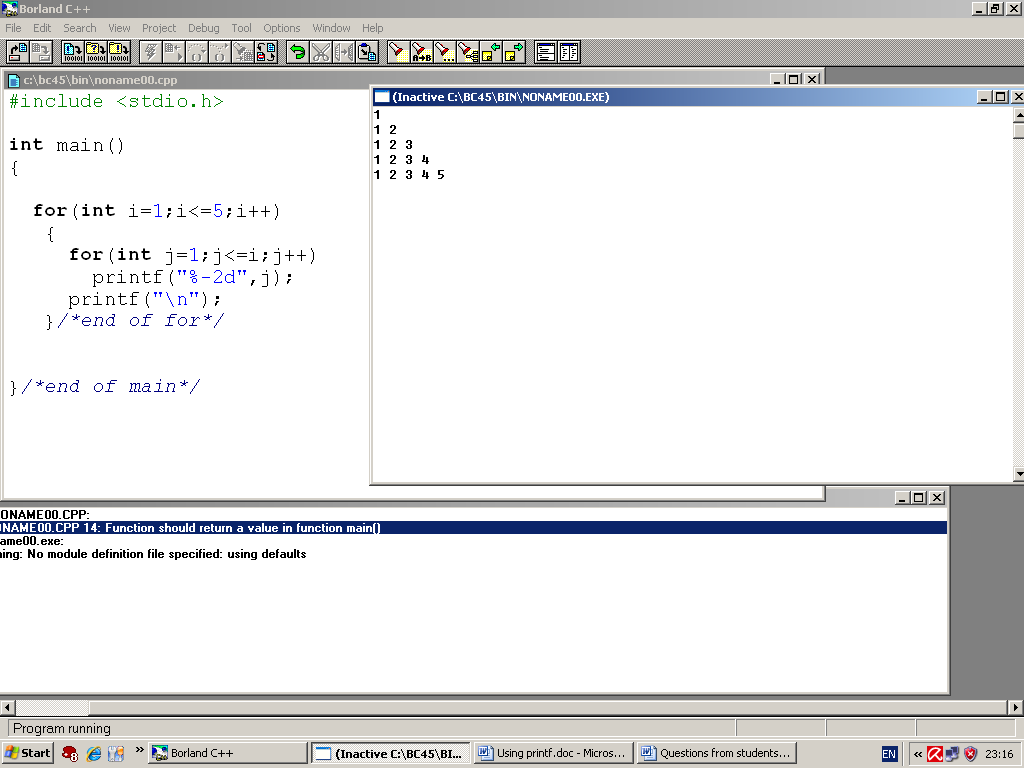
printf("\n");

getchar();

}/\*end of for\*/

}/\*end of main\*/

Output



End of session