

Aror University of Art, Architecture, Design & Heritage
Sukkur.

Department of Artificial Intelligence and Multimedia
Gaming Fundamentals of Programming (Fall-2025)

LAB No. 02

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Section: D

Exercise: 1

Code:

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise11.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has various icons for file operations. The status bar at the bottom shows "Line: 6 Col: 18 Sel: 0 Lines: 12 Length: 183 Insert Done parsing in 0 seconds". The code editor window contains the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     bool my_bool;
5     my_bool= true;
6     cout<< my_bool << endl;
7     bool test;
8     test= false;
9     my_bool= test;
10    cout<< my_bool;
11    return 0;
12 }
```

The status bar also displays "Compilation results..." with the following output:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercisell.exe
- Output Size: 1.83208656311035 MiB
- Compilation Time: 0.45s

Output:

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise11.cpp - [Executing] - Dev-C++ 5.11". The status bar at the bottom shows "Line: 6 Col: 18 Sel: 0 Lines: 12 Length: 183 Insert Done parsing in 0 seconds". The terminal window displays the following output:
1
0

Process exited after 1.337 seconds with return value 0
Press any key to continue . . . |

Exercise: 2

Code:

The screenshot shows the Dev-C++ IDE interface. The main window displays the following C++ code in the editor:

```
1 #include<iostream>
2 int main(){
3     using namespace std;
4     int my_int;
5     int first_num = 6;
6     my_int= first_num;
7     cout<< "The value of first number is: "<< my_int << endl;
8     int second_num= 7;
9     my_int= second_num;
10    cout<< "The value of second number is: "<< my_int<< endl;
11    int third_num;
12    third_num= 8;
13    my_int= third_num;
14    cout<< "The value of third number is: "<< my_int;
15    return 0;
16 }
```

Below the editor, the Compiler tab is selected in the toolbar, showing the compilation results:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise22.exe
- Output Size: 1.83260917663574 MiB
- Compilation Time: 0.47s
```

The status bar at the bottom indicates the current time as 3:49 pm and date as 05/09/2025.

Output:

The screenshot shows the Dev-C++ IDE interface during execution. The terminal window displays the following output:

```
The value of first number is: 6
The value of second number is: 7
The value of third number is: 8
-----
Process exited after 1.226 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates the current time as 3:50 pm and date as 05/09/2025.

Exercise: 3

Code:

The screenshot shows the Dev-C++ IDE interface. The main window displays a C++ code editor with the following content:

```
#include<iostream>
using namespace std;
int main(){
    string line1;
    line1= "This is first line";
    cout<< line1<< endl;
    string line2;
    line2= "This is second line";
    cout<< line2;
}
return 0;
```

The code uses standard input-output streams to print two lines of text to the console. The IDE's status bar at the bottom shows the current time as 10:56 pm and date as 05/09/2025.

Output:

The screenshot shows the Dev-C++ IDE interface after executing the code. The terminal window displays the following output:

```
This is first line
This is second line
-----
Process exited after 1.369 seconds with return value 0
Press any key to continue . . . |
```

The output consists of two lines of text printed to the console, followed by a termination message indicating the process ended after 1.369 seconds. The IDE's status bar at the bottom shows the current time as 10:57 pm and date as 05/09/2025.

Exercise 4:

Code:

The screenshot shows the Dev-C++ IDE interface. The main window displays the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     double my_double;
5     my_double=3.14;
6     cout<< "The value of my_double is: "<< my_double<< endl;
7     double number;
8     number= 897.887;
9     my_double= number;
10    cout<< "The value of number is: "<< my_double;
11    return 0;
12 }
```

The code uses standard input-output streams to print the values of variables `my_double` and `number`. The output of the program is highlighted in a light blue box in the code editor.

Below the code editor, the compiler results window shows the following compilation information:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise44.exe
- Output Size: 1.83260917663574 MiB
- Compilation Time: 0.45s
```

The status bar at the bottom indicates the current time as 4:13 pm and the date as 05/09/2025.

Output:

The screenshot shows the Dev-C++ IDE interface during execution. The terminal window displays the following output:

```
The value of my_double is: 3.14
The value of number is: 897.887
-----
Process exited after 1.156 seconds with return value 0
Press any key to continue . . .
```

The output shows the values assigned to `my_double` and `number`, followed by a message indicating the process exit and a prompt to press any key to continue.

The status bar at the bottom indicates the current time as 4:13 pm and the date as 05/09/2025.

Exercise: 5

Code:

The screenshot shows the Dev-C++ IDE interface. The main window displays the code for 'exercise 55.cpp'. The code prints a greeting and the current wait time. The 'Compile Log' tab at the bottom shows a successful compilation with no errors or warnings. The status bar at the bottom indicates the file is parsing in 0.015 seconds.

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     string greeting;
5     greeting= "Hello!";
6     string dayofweek;
7     dayofweek= "wednesday,";
8     string month;
9     month= "may";
10    int day;
11    day= 4;
12    int currentwaitminutes;
13    currentwaitminutes= 4;
14    cout<< greeting << " " << "Today is " << dayofweek << " " << month << " " << day << "." << endl;
15    cout<< "The current wait time is "<< currentwaitminutes << " " << "minutes.">>;
16    return 0;
17 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise 55.exe
- Output Size: 1.83309745788574 MiB
- Compilation Time: 0.42s

Line: 15 Col: 77 Sel: 0 Lines: 17 Length: 426 Insert Done parsing in 0.015 seconds

Output:

The screenshot shows the Dev-C++ IDE interface during execution. The terminal window displays the program's output: 'Hello! Today is wednesday, may 4.' followed by 'The current wait time is 4 minutes.'. After the output, it shows the process exiting after 1.331 seconds and prompting the user to press any key to continue. The status bar at the bottom indicates the file is executing in 0.015 seconds.

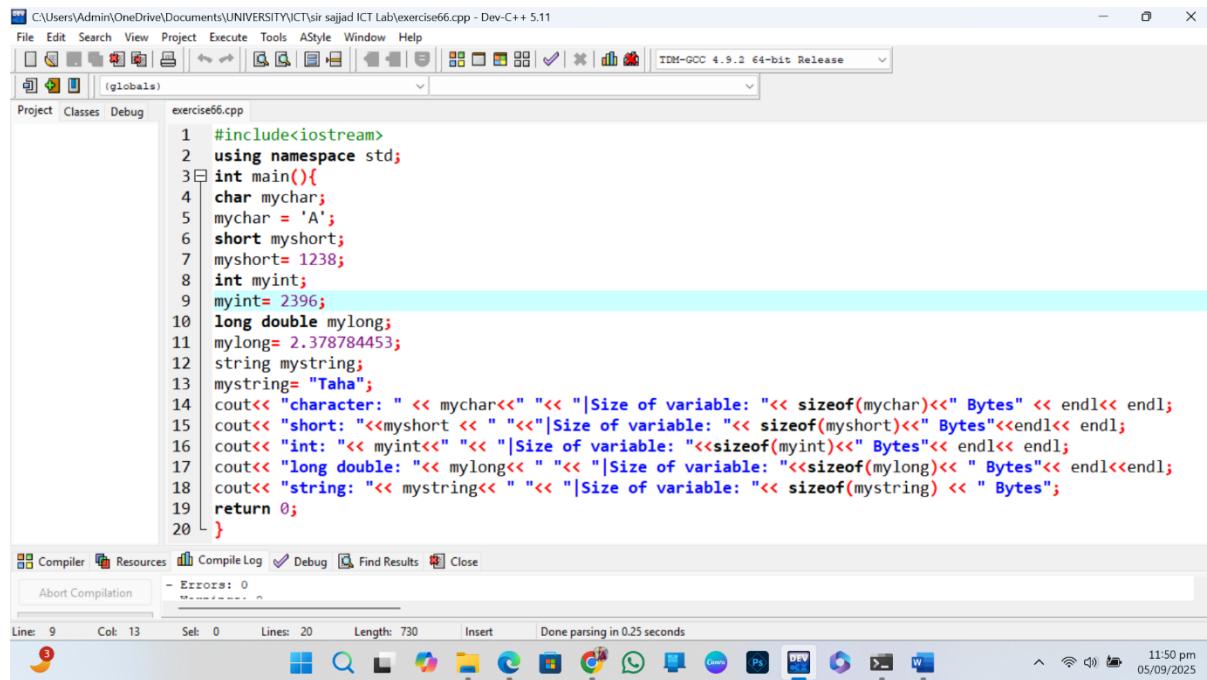
```
Hello! Today is wednesday, may 4.
The current wait time is 4 minutes.

Process exited after 1.331 seconds with return value 0
Press any key to continue . . . |
```

Line: 15 Col: 77 Sel: 0 Lines: 17 Length: 426 Insert Done executing in 0.015 seconds

Exercise 6:

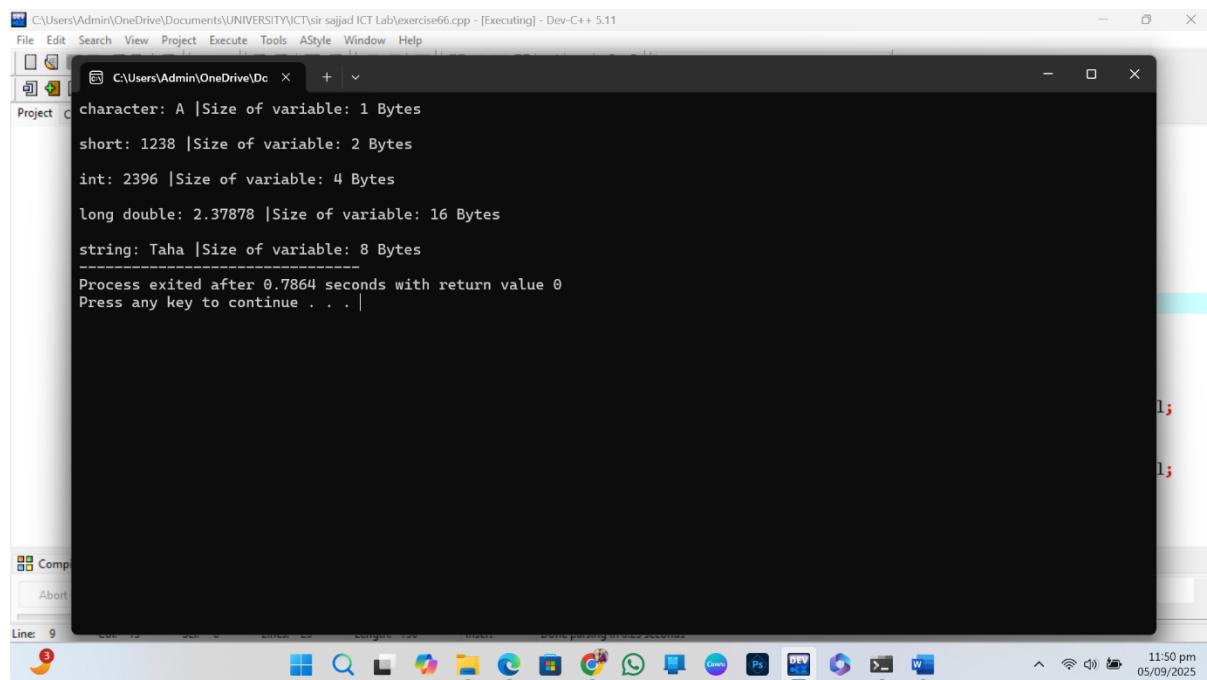
Code:



The screenshot shows the Dev-C++ IDE interface. The title bar indicates the file is C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise66.cpp - Dev-C++ 5.11. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains various icons for file operations. The status bar at the bottom shows the line number (Line: 9), column number (Col: 13), total lines (Lines: 20), length (Length: 730), and a message "Done parsing in 0.25 seconds". The main window displays the C++ code for exercise66.cpp, which prints the size of various data types using cout. The code is as follows:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     char mychar;
5     mychar = 'A';
6     short myshort;
7     myshort= 1238;
8     int myint;
9     myint= 2396;
10    long double mylong;
11    mylong= 2.378784453;
12    string mystring;
13    mystring= "Taha";
14    cout<< "character: " << mychar<< " |Size of variable: "<< sizeof(mychar)<< " Bytes" << endl<< endl;
15    cout<< "short: " << myshort << " |Size of variable: "<< sizeof(myshort)<< " Bytes" << endl<< endl;
16    cout<< "int: " << myint<< " |Size of variable: "<< sizeof(myint)<< " Bytes" << endl<< endl;
17    cout<< "long double: " << mylong<< " |Size of variable: "<< sizeof(mylong)<< " Bytes" << endl<< endl;
18    cout<< "string: " << mystring<< " |Size of variable: "<< sizeof(mystring) << " Bytes";
19    return 0;
}
```

Output:



The screenshot shows the terminal window of the Dev-C++ IDE displaying the execution output of the program. The output shows the size of each variable in bytes as it was printed by the cout statements in the code. The terminal window title is C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise66.cpp - [Executing] - Dev-C++ 5.11. The output text is:

```
character: A |Size of variable: 1 Bytes
short: 1238 |Size of variable: 2 Bytes
int: 2396 |Size of variable: 4 Bytes
long double: 2.37878 |Size of variable: 16 Bytes
string: Taha |Size of variable: 8 Bytes
-----
Process exited after 0.7864 seconds with return value 0
Press any key to continue . . . |
```

Exercise 7:

A

Code:

The screenshot shows the Dev-C++ IDE interface. The code editor window displays the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     cout << "*" << "\n" << "* *" << "\n" << "* * *" << "\n" << "* * * *" << "\n" << "* * * * *";
5     return 0;
6 }
```

The compiler output window below shows the following compilation results:

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\ICT\sir sajjad ICT Lab\exercise7 A.exe
- Output Size: 1.8324232101404 MiB
- Compilation Time: 0.44s
```

The status bar at the bottom indicates the current time as 12:10 am and date as 06/09/2025.

Output:

The screenshot shows the Dev-C++ IDE interface with the terminal window open. The terminal displays the following output:

```
*
*
*
*
*
-----
Process exited after 1.191 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates the current time as 12:10 am and date as 06/09/2025.

B:

Code:

The screenshot shows the Dev-C++ IDE interface. The code editor window displays the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     cout<< "A" << "B B" << "\n" << "C C C" << "\n" << "D D D D" << "\n" << "E E E E E";
5     return 0;
6 }
```

Below the code editor is the Compiler Log window, which shows the following compilation results:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Admin\OneDrive\Documents\UNIVERSITY\sir sajjad ICT Lab\exercise 7 B.exe
- Output Size: 1.03242321014404 MB
- Compilation Time: 0.42s

The status bar at the bottom indicates the current time as 12:15 am and the date as 06/09/2025.

Output:

The screenshot shows the terminal window of the Dev-C++ IDE displaying the program's output. The output consists of the following text:

```
A
B B
C C C
D D D D
E E E E E
-----
Process exited after 0.8309 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates the current time as 12:15 am and the date as 06/09/2025.

