

Date: / /20

Day: _____

ASSIGNMENT # 3

NAME :-
M-SALMAN

SAP ID:-
72373

Why manipulators are used :-

Manipulators in C++ are special functions that are used with input and output streams (cin, cout) to change how data is displayed or read.

Types :-

- endl;
- set w(n);
- set fill(n);
- set precision(n);

• endl;

It is used for endline in output.

P.T.O

Teacher's Signature _____

(Falcon)

Parent's Signature _____

■ **`setw(n);`**

It is used to set width in output.

■ **`setfill(n);`**

It is used to fill the empty spaces in output.

■ **`setprecision(n);`**

It controls number of digits show after decimal points.

Examples :-

`endl;`

```
# include <iostream>
```

```
using namespace std;
```

```
int main ()
```

```
{
```

```
cout << "My name is SALMAN" << endl;
```

```
cout << "My Sap id is 72373" << endl;
```

```
return 0;
```

```
}
```

Output;

My name is SALMAN

My Sap id is 72373

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```
setw(n); setfill(n);
#include <iostream>
#include <iomanip>
using namespace std;
int main ()
{
    cout << setw(10) << "72373" << setw(10) << endl;
    cout << setfill('*') << setw(10) << "123" << endl;
    return 0;
}
```

Output ;

72373

***** 123

Set precision (n);

```
# include <iostream>
```

```
# include <iomanip>
```

```
using namespace std;
```

```
int main ()
```

```
{
```

float a = 7.56473

```
cout << "Value is :" << setprecision(3) << a << endl;
```

```
return 0;
```

```
}
```

Output ;

Value is : 7.564



Student

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Program :-

```
# include <iostream>
# include <iomanip>
using namespace std;
int main () {
    string msg = "Enter your name";
    double value = 123.456789;
    cout << setfill('*') << setw(25) << msg << endl;
    cout << setfill('@') << setw(20) << msg << endl;
    cout << setfill('=') << setw(16) << msg << endl;
    cout << endl << "Using setprecision :" << endl;
    cout << fixed << setprecision(2);
    cout << "Value with two decimal places :" << value << endl;
    cout << fixed << setprecision(4);
    cout << "Value with four decimal places :" << value << endl;
    return 0;
}
```

Output :-

***** * * * * Muhammad Salman

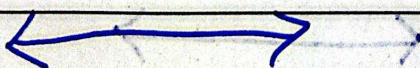
@ @ @ @ @ Muhammad Salman

= Muhammad Salman

Using set precision :

Value with 2 decimal places : 123.46 ;

Value with 4 decimal places : 123.4568



Teacher's Signature _____

(Falcon)

Parent's Signature _____

A screenshot of the Microsoft Visual Studio IDE interface. The menu bar includes File, Edit, View, Git, Project, Build, Debug, Test, Analyze, Tools, and Extended. The toolbar has icons for back, forward, search, and file operations. The status bar shows "Debug x64 Local W". The title bar says "Practice of m...tors task.cpp". The code editor displays a C++ file named "Practice of manipulators task" with the following content:

```
1 #include <iostream>
2 #include <iomanip>
3 using namespace std;
4
5 int main() {
6     string msg = "Muhammad Salman";
7     double value = 123.456789;
8     cout << setfill('*') << setw(25) << msg << endl;
9     cout << setfill('@') << setw(20) << msg << endl;
10    cout << setfill('=') << setw(16) << msg << endl;
11    cout << endl << "Using setprecision:" << endl;
12    cout << fixed << setprecision(2);
13    cout << "Value with 2 decimal places:" << value << endl;
14    cout << fixed << setprecision(4);
15    cout << "Value with 4 decimal places" << value << endl;
16    return 0;
17 }
```

The status bar at the bottom shows "75%" and "No issues found". The Output window shows the program's execution log:

```
The program '[22260] Practice of manipulators task.exe' has exited with code 0 (0x0).
'Practice of manipulators task.exe' (Win32): Loaded 'C:\Windows\System32\kernel.dll'
'Practice of manipulators task.exe' (Win32): Loaded 'C:\Windows\System32\msvcrtd.dll'
The thread 6104 has exited with code 0 (0x0).
The thread 10372 has exited with code 0 (0x0).
The program '[22260] Practice of manipulators task.exe' has exited with code 0 (0x0)
```

The Error List and Output tabs are visible at the bottom left. A "Ready" message is shown at the bottom center.

Microsoft Visual Studio Debug X + ▾

```
*****Muhammad Salman  
@@@@@Muhammad Salman  
=Muhammad Salman
```

Using setprecision:

```
Value with 2 decimal places:123.46  
Value with 4 decimal places123.4568
```

```
D:\BS Artificial Intelligence\SEMESTER 1\PROGRAMMING FUNDAMENTALS\Manipulators task.exe (process 22260) exited with code 0 (0x0).  
To automatically close the console when debugging stops, enable when debugging stops.
```

```
Press any key to close this window . . .|
```

