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1. Aritmatika

```
operator_aritmatika_part1.cpp
1 #include <iostream>
2
3 int main(){
4     int a, b, c, d, e, f;
5
6     a = 8+4;
7     b = 9-2;
8     c = 2*3;
9     d = 10 + 3 - 7 * 4;
10    e = ((10+3)-7) *4;
11    f = -79;
12
13    std::cout << "Isi variable a : " << a << std::endl;
14    std::cout << "Isi variable b : " << b << std::endl;
15    std::cout << "Isi variable c : " << c << std::endl;
16    std::cout << "Isi variable d : " << d << std::endl;
17    std::cout << "Isi variable e : " << e << std::endl;
18    std::cout << "Isi variable f : " << f << std::endl;
19 }
```

```
operator_aritmatika_part2_pembagian.cpp
1 #include <iostream>
2
3 int main() {
4     int a, b, c;
5     double d, e;
6
7     a = 8 / 4;
8     b = 8.0 / 3.0;
9     c = 8 / 2;
10    d = 5 / 3;
11    e = 5.0 / 3.0;
12
13    std::cout << "Isi variable a : " << a << std::endl;
14    std::cout << "Isi variable b : " << b << std::endl;
15    std::cout << "Isi variable c : " << c << std::endl;
16    std::cout << "Isi variable d : " << d << std::endl;
17    std::cout << "Isi variable e : " << e << std::endl;
18
19 }
```

```
operator_aritmatika_part3_mod.cpp
1 #include <iostream>
2
3 int main(){
4     int a, b, c, d;
5
6     a = 8 % 4;
7     b = 8 % 5;
8     c = 10 % 2;
9     d = 100 % 7;
10
11    std::cout << "Isi variable a : " << a << std::endl;
12    std::cout << "Isi variable b : " << b << std::endl;
13    std::cout << "Isi variable c : " << c << std::endl;
14    std::cout << "Isi variable d : " << d << std::endl;
15
16 }
```

2. Increment & Decrement

```
1 #include <iostream>
2
3 int main() {
4
5     int a = 7;
6     a++;
7     std::cout << "Isi variable a : " << a << std::endl;
8     int b = 7;
9     ++b;
10    std::cout << "Isi variable b : " << b << std::endl;
11    int c = 7;
12    c--;
13    std::cout << "Isi variable c : " << c << std::endl;
14    int d = 7;
15    --d;
16    std::cout << "Isi variable d : " << d << std::endl;
17
18 }
```

```
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PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3> & 'c:\Users\abdu
a\.vscode\extensions\ms-vscode.cpptools-1.17.5-win32-x64\debugAdapters\b
in\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-xg8gdf5.pyi
' '--stdout=Microsoft-MIEngine-Out-z2c5xj42.tey' '--stderr=Microsoft-MIE
ngine-Error-dsfnyiw.2sz' '--pid=Microsoft-MIEngine-Pid-wymtkvf2.qra' '-
dbgExe=C:\Program Files\mingw64\bin\gdb.exe' '--interpreter=mi'
Isi variable a : 8
Isi variable b : 8
Isi variable c : 6
Isi variable d : 6
PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3>
```

```
1 #include <iostream>
2
3 int main() {
4
5     int a = 5;
6     std::cout << "Pre & Post Increment" << std::endl;
7     std::cout << "Isi variable a : " << a++ << std::endl;
8     std::cout << "Isi variable a : " << a << std::endl;
9     std::cout << "Isi variable a : " << ++a << std::endl;
10    std::cout << "Isi variable a : " << a << std::endl;
11
12    std::cout << std::endl;
13
14    int b = 5;
15    std::cout << "Pre & Post Decrement" << std::endl;
16    std::cout << "Isi variable b : " << a-- << std::endl;
17    std::cout << "Isi variable b : " << a << std::endl;
18    std::cout << "Isi variable b : " << --a << std::endl;
19    std::cout << "Isi variable b : " << a << std::endl;
20
21 }
```

```
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PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3> & 'c:\Users\abdu
a\.vscode\extensions\ms-vscode.cpptools-1.17.5-win32-x64\debugAdapters\b
in\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-4savy3pin.f44
' '--stdout=Microsoft-MIEngine-Out-d1lvzf9y.bo5' '--stderr=Microsoft-MIE
ngine-Error-yf2ar3rd.iip' '--pid=Microsoft-MIEngine-Pid-b4ummk4l.ayg' '-
dbgExe=C:\Program Files\mingw64\bin\gdb.exe' '--interpreter=mi'
Pre & Post Increment
Isi variable a : 5
Isi variable a : 6
Isi variable a : 7
Isi variable a : 7

Pre & Post Decrement
Isi variable b : 7
Isi variable b : 6
Isi variable b : 5
Isi variable b : 5
PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3>
```

3. Perbandingan

```
1 #include <iostream>
2
3 int main() {
4
5     int a = 10;
6     int b = 5;
7     bool hasil;
8     std::cout << "Isi variable a : " << a << std::endl;
9     std::cout << "Isi variable b : " << b << std::endl;
10
11    hasil = a == b;
12    std::cout << "Apakah a == b ? " << hasil << std::endl;
13
14    hasil = a != b;
15    std::cout << "Apakah a != b ? " << hasil << std::endl;
16
17    hasil = a > b;
18    std::cout << "Apakah a > b ? " << hasil << std::endl;
19
20    hasil = a < b;
21    std::cout << "Apakah a < b ? " << hasil << std::endl;
22
23    hasil = a >= b;
24    std::cout << "Apakah a >= b ? " << hasil << std::endl;
25
26    hasil = a <= b;
27    std::cout << "Apakah a <= b ? " << hasil << std::endl;
28
29
30    hasil = a <= b;
31    std::cout << "Apakah a <= b ? " << hasil << std::endl;
32
33 }
```

```
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PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3> & 'c:\Use
rs\abdu\vscode\extensions\ms-vscode.cpptools-1.17.5-win32-x64\d
ebugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIE
ngine-In-03w2qto0.5k3' '--stdout=Microsoft-MIEngine-Out-5m2gnoxdd.
gak' '--stderr=Microsoft-MIEngine-Error-z5frj22.0cg' '--pid=Micr
osoft-MIEngine-Pid-p3vjh4hf.co4' '--dbgExe=C:\Program Files\mingw
64\bin\gdb.exe' '--interpreter=mi'
Isi variable a : 10
Isi variable b : 5
Apakah a == b ? 0
Apakah a != b ? 1
Apakah a > b ? 1
Apakah a < b ? 0
Apakah a >= b ? 1
Apakah a <= b ? 0
PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3>
```

4. Operator Logika

The image shows a C++ IDE with two source files and their terminal output.

File 1: operator_logika.cpp

```

1 #include <iostream>
2
3 int main() {
4
5     bool a = true;
6     bool b = false;
7     bool hasil;
8     std::cout << "Nilai dari a : " << a << std::endl;
9     std::cout << "Nilai dari b : " << b << std::endl;
10
11     hasil = a && a;
12     std::cout << "Hasil dari a && a : " << hasil << std::endl;
13
14     hasil = a && b;
15     std::cout << "Hasil dari a && b : " << hasil << std::endl;
16
17     hasil = a || b;
18     std::cout << "Hasil dari a || b : " << hasil << std::endl;
19
20     hasil = b || b;
21     std::cout << "Hasil dari b || b : " << hasil << std::endl;
22
23     hasil = !a;
24     std::cout << "Hasil dari !a : " << hasil << std::endl;
25
26     hasil = !b;
27     std::cout << "Hasil dari !b : " << hasil << std::endl;
28 }

```

File 2: operator_logika_part2.cpp

```

1 #include <iostream>
2
3 int main() {
4     bool hasil;
5
6     hasil = (false && true) || (true || false);
7     std::cout << "Hasil : " << hasil << std::endl;
8
9     hasil = !false && (false || true);
10    std::cout << "Hasil : " << hasil << std::endl;
11
12    hasil = ((true && true) || (false || true)) & !true;
13    std::cout << "Hasil : " << hasil << std::endl;
14 }

```

Terminal Output (Both Files):

```

PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3> & 'c:\Users\abdul\vscode\extensions\ms-vscode.cpptools-1.17.5-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin-microsoft-mi-engine-in-zsoglt5m.epg' '--stdout-microsoft-mi-engine-out-mux3vew.nm' '--stderr-microsoft-mi-engine-error-ypkjxdtd.wd4' '--pid-microsoft-mi-engine-pid-5shfde2v.iyy' '--dbgExe=C:\Program Files\mingw64\bin\gdb.exe' '--interpreter-mi'
Nilai dari a : 1
Nilai dari b : 0
Hasil dari a && a : 1
Hasil dari a && b : 0
Hasil dari a || b : 1
Hasil dari b || b : 0
Hasil dari !a : 0
Hasil dari !b : 1
PS C:\UJUN\Kuliah\Semester 3\P. Terstruktur\Tugas - 3>

```