**PPS File**

**By Harshbir Singh (ECE A2)**

**Operators in C++**

1. **Arithmetic Operators:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**float a=40,b=50;**

**int c=40,d=50;**

**cout << "a+b = " << a+b << endl;**

**cout << "a-b = " << a-b << endl;**

**cout << "a\*b = " << a\*b << endl;**

**cout << "a/b = " << a/b << endl;**

**cout << "c % d = " << c%d << endl;**

**return 0;**

**}**

**Output:**

**a+b = 90**

**a-b = -10**

**a\*b = 2000**

**a/b = 0.8**

**c % d = 40**

1. **Relational Operator:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a=40,b=50;**

**cout << "(a > b): " << (a > b) << endl;**

**cout << "(a < b): " << (a < b) << endl;**

**cout << "(a <= b): " << (a <= b) << endl;**

**cout << "(a >= b): " << (a >= b) << endl;**

**cout << "(a == b): " << (a == b) << endl;**

**cout << "(a != b): " << (a != b) << endl;**

**return 0;**

**}**

**Output:**

**(a > b): 0**

**(a < b): 1**

**(a <= b): 1**

**(a >= b): 0**

**(a == b): 0**

**(a != b): 1**

1. **Logical Operator:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a=40,b=55;**

**if ((a > b) && (b = 50))**

**{**

**cout << "Hello" << endl;**

**}**

**if ((a == 40) || (a < b))**

**{**

**cout << "World!" << endl;**

**}**

**if (!(a > b))**

**{**

**cout << "a is less than b" << endl;**

**}**

**return 0;**

**}**

**Output:**

**World!**

**a is less than b**

1. **Assignment Operators:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a =6 ,b = 10;**

**cout << "a = " << a << endl;**

**cout << "a += b = " << (a += b) << endl;**

**cout << "a -= b = " << (a -= b) << endl;**

**cout << "a \*= b = " << (a \*= b) << endl;**

**cout << "a /= b = " << (a /= b) << endl;**

**return 0;**

**}**

**Output:**

**a = 6**

**a += b = 16**

**a -= b = 6**

**a \*= b = 60**

**a /= b = 6**

1. **Ternary or Conditional Operators:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a = 10, b = 60;**

**int result = (a < b) ? b : a;**

**cout << "The greatest number is: " << result << endl;**

**return 0;**

**}**

**Output:**

**The greatest number is: 60**

**Practice Questions**

1. **Write a program to check wheter the alphabet is a consonant or a vowel.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**char ch;**

**cout << "Enter a letter: ";**

**cin >> ch;**

**((ch == 'a') || (ch == 'o') || (ch == 'u') || (ch == 'e') || (ch == 'i'))**

**? cout << ch << " is a vowel!" << endl : cout << ch << " is a consonant!";**

**return 0;**

**}**

**Output:**

**Enter a letter: b**

**b is a consonant!**

1. **Write a program to swap two numbers using a third variable.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a = 4,b=5,c;**

**cout << "Before swaping:" << endl;**

**cout << "a = " << a << endl;**

**cout << "b = " << b << endl;**

**c = a;**

**a = b;**

**b = c;**

**cout << "After swaping:" << endl;**

**cout << "a = " << a << endl;**

**cout << "b = " << b << endl;**

**return 0;**

**}**

**Output:**

**Before swaping:**

**a = 4**

**b = 5**

**After swaping:**

**a = 5**

**b = 4**

1. **Write a program to enter students record of result in subjects (i.e. Maths, Sci, Punjabi, English). Find the percentage of student.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**float maths,eng,sci,pun;**

**cout << "Enter the marks in Maths(out of 100): ";**

**cin >> maths;**

**cout << "Enter the marks in English(out of 100): ";**

**cin >> eng;**

**cout << "Enter the marks in Punjabi(out of 100): ";**

**cin >> pun;**

**cout << "Enter the marks in Sci(out of 100): ";**

**cin >> sci;**

**float percent;**

**percent = ((maths+sci+eng+pun)/400)\*100;**

**cout << "Percentage of student is: " << percent << endl;**

**return 0;**

**}**

**Output:**

**Enter the marks in Maths(out of 100): 90**

**Enter the marks in English(out of 100): 90**

**Enter the marks in Punjabi(out of 100): 90**

**Enter the marks in Sci(out of 100): 90**

**Percentage of student is: 90**

1. **Write a program to find greater of two numbers using operators.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a = 45, b = 50;**

**((a > b)) ? cout << "a is greater than b" : cout << "a is smaller than b";**

**return 0;**

**}**

**Output:**

**a is smaller than b**

1. **Write a program to find greater of three numbers.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int a = 45, b = 50 , c = 100;**

**((a > b) && (a > c))**

**? cout << "a is greater" : ((b > a) && (b > c))**

**? cout << "b is greater" : ((c > a) && (c > b))**

**? cout << "c is greater" : cout << "none of them is greater.";**

**return 0;**

**}**

**Output:**

**c is greater**

1. **Write a program to find area, perimeter of a rectangle and area, circumference of a circle.**

**Code:**

**#include <iostream>**

**using namespace std;**

**int main(){**

**int l = 100, b = 23, r = 34;**

**cout << "Area of rectangle = " << (l\*b) << " sq. cm" << endl;**

**cout << "Perimeter of rectangle = " << (2\*(l+b)) << " cm" << endl;**

**cout << "Area of circle = " << (3.14\*r\*r) << " sq. cm" << endl;**

**cout << "Circumference of circle = " << (2\*3.14\*r) << " cm" << endl;**

**return 0;**

**}**

**Output:**

**Area of rectangle = 2300 sq. cm**

**Perimeter of rectangle = 246 cm**

**Area of circle = 3629.84 sq. cm**

**Circumference of circle = 213.52 cm**