**Problem Set # 2**

Purpose: Introduction to operators and order of precedence.

**Problem 1:** Write your first program saying “Hello World”. Now change the program to print your name and roll number instead.

**Problem 2:** Dry run the following lines as well. Each statement is performed independently and not connected with previous.

a = 2, b = 20, c =10, d =5

1. e = (a + b) \* c / d;

cout << "Value of (a + b) \* c / d is :" << e << endl ;

2. e = ((a + b) \* c) / d;

cout << "Value of ((a + b) \* c) / d is :" << e << endl ;

3. e = (a + b) \* (c / d);

cout << "Value of (a + b) \* (c / d) is :" << e << endl ;

4. e = a + (b \* c) / d;

cout << "Value of a + (b \* c) / d is :" << e << endl ;

5. e = a + (b - c) / d \* c + a; // 20 + (150/5)

cout << "Value of a + (b - c) / d \* c + a is :" << e << endl ;

6. cout << "Value of c++ and ++c is: “ << c++ << ++c;

7. cout << "Value of ++c + a++ is: “ << ++c + a++;

8. cout << "Value of d++ % c++ is: “ << d++ % c++;

9. cout << "Value of c++ << ++c << ++c << c++ is: “ << c++ << ++c << ++c << c++;

10. if ((c = (d==9 || c==4)))

cout<<<< "Value of c is: “c;

**Problem 3:** What will following program print on screen?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  int y = 6;  cout<<"Result = "<< ++x \* y<<endl;  cout<<"x = "<<x<<endl;  } |

**Problem 4:** What will following program print on screen?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  int y = 6;  cout<<"Result = "<< x++ \* y<<endl;  cout<<"x = "<<x<<endl;  } |

**Problem 5:** What will be the output of following program?[[1]](#footnote-1)

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  int y = 6;  cout<<"Result = "<< ++(x+y)<<endl;  cout<<"x = "<<x<<endl;  } |

**Problem 6:** What will be the output of following program?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 30 / 5 \* 4 + 3 \* 6 / 2;  cout<<"x = "<<x<<endl;  } |

**Problem 7:** What will be the output of following program?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 3 \* 6 / 2 + 30 / 6 \* 2;  cout<<"x = "<<x<<endl;  } |

**Problem 8:** What will be the output of following program?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  cout<<"Result 1 = "<<(x == 5)<<endl;  cout<<"Result 2 = "<<(x > 10)<<endl;  cout<<"Result 3 = "<<(x < 10)<<endl;  cout<<"Result 4 = "<<(x <= 5)<<endl;  } |

**Problem 9:** What will be the output of following program?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  bool isValid = true;  cout<<"Result 1 = "<<((x == 5) && !isValid)<<endl;  cout<<"Result 2 = "<<((x < 10) && isValid )<<endl;  cout<<"Result 3 = "<<(((x == 5) && !isValid) || ((x < 10) && isValid ))<<endl;  cout<<"Result 4 = "<<(((x != 5) || !isValid) && ((x == 5 ) && isValid ))<<endl;  } |

**Problem 10:** What will be the output of following program?[[2]](#footnote-2)

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;    cout<<"Comparison Result = "<<(x == 6)<<endl;  cout<<"x = "<<x<<endl;  cout<<"Comparison Result = "<<(x = 6)<<endl;  cout<<"x = "<<x<<endl;  } |

**Problem 11:** What is wrong with following program and how can you fix it?

|  |
| --- |
| #include<iostream>  using namespace std;  void main()  {  int x = 5;  int y = 6;  int average = (x + y) / 2;  cout<<"Average = " <<average<<endl;  } |

**Problem 12:** Write a program that asks user to input two characters and checks if both characters are equal.Following is the syntax to declare a character:

|  |
| --- |
| char ch1; |

Give ‘a’ and ‘A’ as two characters. Are these characters equal?

1. Attempting to use the increment or decrement operator on an expression other than a simple variable name is a syntax error. [↑](#footnote-ref-1)
2. Using operator == for assignment and = for equality are logic errors. [↑](#footnote-ref-2)