1)) The output produced by the program segment is:

endlendl

grendel

This is because the string variable *grendel* is assigned the text of “endl” so when the program outputs *grendel* or “endl”, it is outputting the character string “endl”, not a new line statement. When the compiler reads the string “grendel”, the console output is the text “grendel” and not “endl” because that statement did not output the variable *grendel* but instead it outputted the text “grendel”.

2) The program prints a diagonal line of the character “#” going from top right to bottom left, where the number of #’s is dependent on user input.

3) Program where inner loop is a for loop:

#include <iostream>

**using** **namespace** std;

**int** main()

{

**int** len;

cout << "Enter a number: ";

cin >> len;

**for** (**int** i = 0; i < len; i++)

{

**int** j = i + 1;

**while** (j < len)

{

cout << " ";

j++;

}

cout << "#" << endl;

}

}

4) Program where outer loop is a do-while loop:

#include <iostream>

**using** **namespace** std;

**int** main()

{

**int** len;

cout << "Enter a number: ";

cin >> len;

**int** i = 0;

**if** (len >=0)

{

**do**

{

**int** j = i + 1;

**while** (j < len)

{

cout << " ";

j++;

}

cout << "#" << endl;

i++;

} **while** (i < len);

}

**else**

**return** 0;

}

5) Switch statement:

**switch** (month)

{

**case** 6:

cout << "summer solstice";

**break**;

**case** 12:

cout << "winter solstice";

**break**;

**case** 3:

**case** 9:

cout << "equinox";

**break**;

**default**:

cout << "nothing special";

}