Alex Chen

CS 31

Project 2 HW

1. What is the output produced by the following program segment? Don't just run it — trace through it and figure it out by hand (which is a skill you'll need for the exams).

string grendel = "endl";

cout << "endl";

cout << grendel;

cout << endl;

cout << "grendel";

endlendl

grendel

1. Consider the following program:

#include <iostream>

using namespace std;

int main()

{

int side;

cout << "Enter a number: ";

cin >> side;

for (int i = 0; i < side; i++)

{

for (int j = i; j >= 0; j--)

{

cout << "#";

}

cout << "\n";

}

}

In a brief, simple English sentence, state what this program does (e.g. "It prints a picture of a jail cell"). Again, figure this out by hand.

The program asks for a number as input and prints out that number of rows of pound symbols, and in each row, the number of symbols increments upwards, starting with 1.

1. Copy the program in problem 2 and change it so that for any input number, the changed program produces *exactly* the same output as the original, but the changed program uses a while loop instead of a for loop for the inner loop.

#include <iostream>

using namespace std;

int main()

{

int side;

cout << "Enter a number: ";

cin >> side;

for (int i = 0; i < side; i++)

{

int j = i;

while (j >= 0)

{

cout << "#";

j--;

}

cout << "\n";

}

}

1. Copy the program you wrote for problem 3 and change it so that for any input number, the changed program produces exactly the same output as the original, but uses a do-while loop instead of a for loop for the outer loop. Be careful! (Hint: How does it behave if side is not positive?) You may need to add a little additional code to make sure the program behaves identically to the program in problem 3.

#include <iostream>

using namespace std;

int main()

{

int side;

cout << "Enter a number: ";

cin >> side;

if (side <= 0)

{

return 0;

}

int i = 0;

do

{

for (int j = i; j >= 0; j--)

{

cout << "#";

}

cout << "\n";

i++;

}

while (i < side);

}

switch (codeSection)

{

case 281:

cout << “bigamy”;

break;

case 321:

cout << “selling illegal lottery tickets”;

break;

case 322:

cout << “selling illegal lottery tickets”;

break;

case 383:

cout << “selling rancid butter”;

break;

case 598:

cout << “injuring a bird in a public cemetery”;

break;

default:

cout << “some other crime”;

}