```
using namespace std;
void stat()
{
        int m = 0;
        static int n = 0;
        m++;
        n++;
        cout << m << "   " << n << "\n";
}
int main()
{
        stat();
        stat();
        return 0;
}
```

48. Replace **if ... else** ladder by a **switch** statement in the following code segment.

```
if(x == 5)
        a++;
else if(x == 6)
        b++;
else if(x == 9)
        c++;
```

49. What is the output of the following code segment?

```
int n = 0;
int i = 1;
do
{
        cout << i;
        i++;
}
while(i <= n)
```

50. What is the output of the following code segment?

```
int n = 0;
for(int i=1;i<=n;i++)
        cout << i;
```

51. Why is it inappropriate to use a **float** type variable as a loop control variable?

100. What is the use of the following code?

```
class student
{
      static int m = 0;
      student()
      {
      m++;
      }
      .....
      .....
};
```

101. Which of the following expressions are wrong?

    (a) 11% 2
    (b) -11 % 2
    (c) 11 % -2
    (d) -11 % -2
    (e) 11.0 % 2.0

102. What will be the output of the following program segment.

```
{
      int m = 1;
      {
          int n = 2;
          cout << m << "   " << n << endl;
      }
      cout << m << "   " << n << endl;
}
```

103. What will be output of the following program?

```
#include <iostream>
using namespace std;

bool test = false;
int main()
{
      bool test = true;
      cout << "test = " << test << "\n";
      cout << "test = " << :: test << "\n";
      return 0;
}
```

104. Consider the following statement:

```
double average = (double)(total/10);
```

If the **int** variable **total** contains a sum of ten integer values, will the statement evaluate to the correct answer? If not why?

105. Write an expression that evaluates to **true** if the **int** variable **x** is even and evaluates to **false** if it is odd.

106. In the expression

```
x = (x == x)
```

what should be the type of **x** to make the expression legal?

107. State which of the following statement are illegal, if **m** is a integer and x is a double.

    (a)   `x = (double)m;`
    (b)   `m = (int)x;`
    (c)   `x = true;`
    (d)   `x = x + 1;`
    (e)   `x = (double) (true);`
    (f)   `m = m + false/true;`

108. If **p** is a pointer of type **int** and **q** is a pointer of type **float**, state which of the following statements are legal.

    (a)   `p = int *(q);`
    (b)   `p = (int*) q;`
    (c)   `p = int (*q);`
    (d)   `p = (int*)(q);`
    (e)   `*p = 25, *q = 7.5, *p = *p + *q;`

109. Which of the following are legal ANSI C++ statements

    (a)   `char array[3] = "abc";`
    (b)   `int *p = new int(7.5);`
    (c)   `use namespace std;`
    (d)   `#include <iostream.h>`
    (e)   `int *p = new int[5];`

110. If **b1** and **b2** are bool type expressions, how do the following two statements differ?

    (a)   `if(b1 && b2)`
            `x = x+1;`
    (b)   `if(b1)`
            `if(b2)`
                `x = x+1;`

111. What is wrong, if any, in the following function implementation?

```
double luxuryTax(double value)
{
    if(value <= 5000)
        return 0.15 * value;
    if(value <= 3000)
        return 0.10 * value;
    if(value <= 10000)
        return 0.20 * value;
  else
        return 0.25 * value;
}
```

112. Write the body of the following function that would return **true** if the value of one of the three variables is equal to the sum of the values of other two variables; otherwise would return **false**.

```
bool test(float a, float b, float c)
{
    // body
}
```

113. Which of the following function headers are correctly written?

    (a)   `void test(void)`
    (b)   `int sum(a, b)`
    (c)   `void tax(float x=0.0)`
    (d)   `double return(double x)`
    (e)   `real max()`

114. State which of the following loop segments will not compile correctly? Why? Assume that all variables have been declared and initialized properly.

    (a)
```
do
    m += m;
while(x < 0)
```
    (b)
```
do
    {
        x++;
    }
while(x < 100)
```
    (c)
```
for(int m=0;m<5;)
    sum = sum + m;
```

(d) while x!= -1
```
    sum = sum + x;
    x = x - 1;
```

115. What will be the output of the following program segment?

```
int x = 1234;
int d,y = 0;
while(x > 0)
{
    d = x%10;
    x /= 10;
    y = 10 * y + d;
}
cout << n << endl;
```

116. Describe the output of the following program segment.

```
int m = 0;
while(++m <= 5)
{
    if(m == 3) continue;
    cout << m << "\n";
}
```

117. Consider the following code:

```
void swap(int x, int y)
{
    int temp = x;
    x = y;
    y = temp;
}

void interchange()
{
    int m = 10;
    int n = 20;
    swap(m,n);
    cout << "m = " << m << "\n";
    cout << "n = " << n << "\n";
}
```

What is the output?

118. What is wrong with the following code?

```
class A
{
    protected: int x;
};
class B : public A
{
  public:
      void set(A a, int y)
      {
          a.x = y;
      }
};
```

119. What is the difference between a **set** and a **map**.
120. What is the difference between the C header **<string.h>** and C++ header **<string>**?