Programming and numerical analysis

Short test 1

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1. Run the following program. Report and discuss the output.

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

int main()
{
bool honest = true;
cout << honest << "\n";
cout << !honest << "\n";
return 0;
}
```

The output is

1

0

Because the symbol '!' invert the Boolean variable from true to false, which makes the value of honest changed from 1 to 0;

2. Are the following three statements equivalent?

```cpp
c++;
c+=1;
c=c+1;
```

Yes, they are. Each statement increases the value of variable c by 1.

3. Assess whether the following 2 structures are equivalent;

```cpp
if(i==5) cout << "i=5"; j=i;
```

```cpp
if(i==5) { cout << "i=5"; j=i; }
```

No, they are not equivalent. In the first structure, statement j=i is not included in "if". In case that the value of i is not 5, the second structure will not set the value of j to the value of i.