Passing by reference Vs. Passing by value

Practice examples

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1) What is the output of this code ?

```cpp
#include <iostream>
#include <string>
using namespace std;
void fun1(int a,int &b, char s);
void fun2(int &a,int b, char &s);
int main()
{
    int x=5;
    int y=13;
    char h='A';
    fun1(x,y,h);
    cout<<"after Function 1 : ";
    cout<<x<<" "<<y<<" "<<h<<endl;
    fun2(x,y,h);
    cout<<"after Function 2 : ";
    cout<<x<<" "<<y<<" "<<h<<endl;

    return 0;
}
void fun1(int a,int &b, char s)
{
    a++;
    a=a+2;
    b=5;
    s='B';
}
void fun2(int &a,int b, char &s)
{
    a=b+1;
    b=100;
    cout<<a<<" "<<b<<" "<<s<<endl;
    s='a';
    a--;

}
```

2)What is the output of this code ?

```cpp
6  //  Copyright © 1441 nooralialhomaid. All rights reserved.
7  //
8
9  #include <iostream>
10 using namespace std;
11 void addFun(int &a, int &b)
12 {
13    b--;
14    a=a+b;
15 }
16 void subFun(int &b)
17 {
18     b=b*b;
19 }
20 int main()
21 {
22    int x=5;
23    int y=10;
24    addFun(x,y);
25    subFun(y);
26 cout<<"The value of x="<<x<<" the value of y="<<y<<endl;
27     return 0;
28 }
29
```

3)What is the output of this code ?

```cpp
#include <iostream>
using namespace std;
void addOne(int &x)
{
    x = x + 1;
}
int main()
{
    int x = 5;

    cout << "value = " << x << '\n';
    addOne(x);
    cout << "value = " << x << '\n';
    return 0;
}
```

Solutions :

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After function 1 :

5 5 A

6 100 A

After function 2 :

5 5 a

2)Output :
The value of x=14
The value of y=81

4)Output :
Value =5
Value=6