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**SUBJECT CODE:20CSP-312**

**UID: 20BCS2761**

**SECTION: 20BCS\_WM\_902 B**

**SUBJECTNAME: Design and Analysis of Algorithms Lab  
Experiment 1.2**

**Aim:**

Code implements power function in  $O(\log n)$  time complexity.

**Sol:**

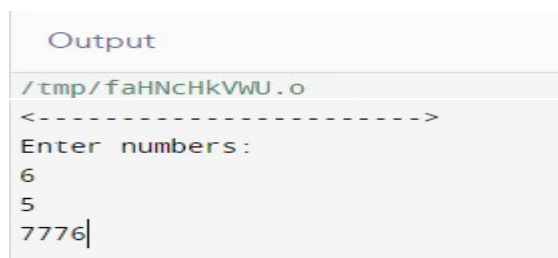
**Code:**

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

int power(int x, int y)
{
    if (y == 0)
        return 1;
    else if (y % 2 == 0)
        return power(x, y / 2) * power(x, y / 2);
    else
        return x * power(x, y / 2) * power(x, y / 2);
}

int main()
{
    cout<<"<----->"<<endl;
    int x,y;
    cout<<"Enter numbers:"<<endl;
    cin>>x>>y;    cout<<
    power(x, y);
    return 0;
}
```

**Output:**



```
Output
/tmp/faHNcHkVwU.o
<----->
Enter numbers:
6
5
7776|
```