
Experiment 2

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Branch: CSE

Section/Group: 702 A

Semester: 5th

Date of Performance: 11/8/2022

Subject Name: DAA Lab

Subject Code: 20-CSP-312

1. Aim/Overview of the practical:

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

2. Task to be done/ Which logistics used:

To find power of a numbers.

3. Algorithm/Flowchart (For programming based labs):

4. Steps for experiment/practical/Code:

```
package com.DAA;

public class DAA_exp1_2 {
    public static void main(String[] args) {
        int x = 2;
        int y = 7;
        System.out.println("The output after performing power function: "+power(x,y));
    }
    static int power(int a,int b){
        if(b==0){
            return 1;
        }
        else if(b % 2 ==0 ){
            return power(a,b/2) * power(a,b/2);
        }
        else
            return a * power(a,b/2) * power(a,b/2);
    }
}
```

5. Observations/Discussions/ Complexity Analysis:

Time complexity of finding power of a number using recursion is $O(\log n)$.

6. Result/Output/Writing Summary:

```
The output after performing power function: 128
```

Learning outcomes (What I have learnt):

1. Learnt how to calculate power of a function.
2. Learnt how to use recursion for solving problem.
- 3.
- 4.
- 5.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			