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SAP I'D : 55416

CLASS : BSSE(2-2)

SUBJECT : OBJECT ORIENTED PROGRAMMING

ASSIGNMENT NO 4

```
public class FunctionComplexity {  
    public static void decrementFunction(int n) {  
        while (n > 0) {  
            n--;  
        }  
    }  
    public static int constantFunction(int n) {  
        return n * 2;  
    }  
    public static void logarithmicFunction(int n) {  
        while (n > 1) {  
            n /= 2;  
        }  
    }  
    public static void polynomialFunction(int n) {
```

```

for (int i = 0; i < n; i++) {
    for (int j = 0; j < n; j++) {
        // do nothing
    }
}

public static void exponentialFunction(int n) {
    if (n == 0) {
        return;
    }
    exponentialFunction(n - 1);
    exponentialFunction(n - 1);
}

```

```

public static void main(String[] args) {
    System.out.println("Order of functions by time complexity (from
highest to lowest):");
    System.out.println("O(function-5) > O(function-4) > O(function-1) >
O(function-3) > O(function-2)");
}
}

```