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LAB ASSIGNMENT - 4

1 . a . PROGRAM TO PRINT THE CORRESPONDING GRADE FOR THE GIVEN MARK USING if...else STATEMENT IN JAVA.

```
import java.util.*;

class Grade
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);

        int marks=sc.nextInt();

        if(marks>=90)
            System.out.println("Grade is O ");

        else if(marks>=80)
            System.out.println("Grade is E ");

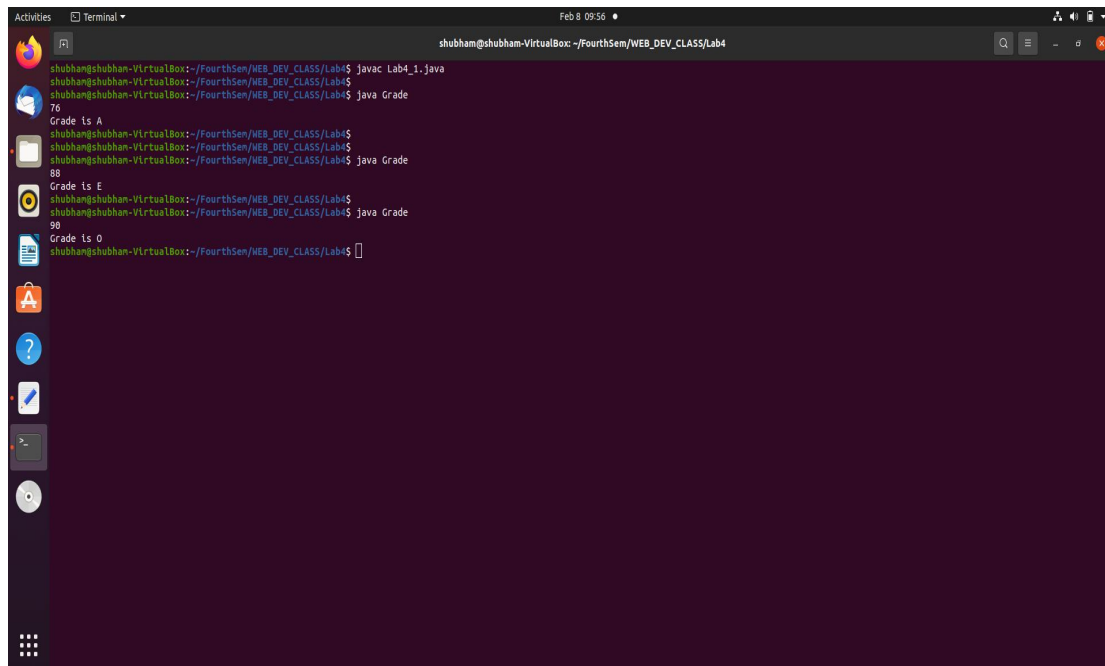
        else if(marks>=70)
            System.out.println("Grade is A ");

        else if(marks>=60)
            System.out.println("Grade is B ");

        else
            System.out.println("Grade is below B ");

        sc.close();

    }
}
```



```
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ javac Lab4_1.java
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ java Grade
76
Grade Is A
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ java Grade
88
Grade Is E
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ java Grade
90
Grade Is O
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$
```

1. b. PROGRAM TO CHECK A USER ENTERED NUMBER IS PALINDROME OR NOT.

```
import java.util.*;

class Palindrome
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);

        int org_num,num,rev_num=0;

        num=sc.nextInt();

        org_num=num;

        while(num!=0)
        {
            int rem=num%10;

            rev_num=rev_num*10+rem;

            num=num/10;
        }

        if(org_num==rev_num)
```

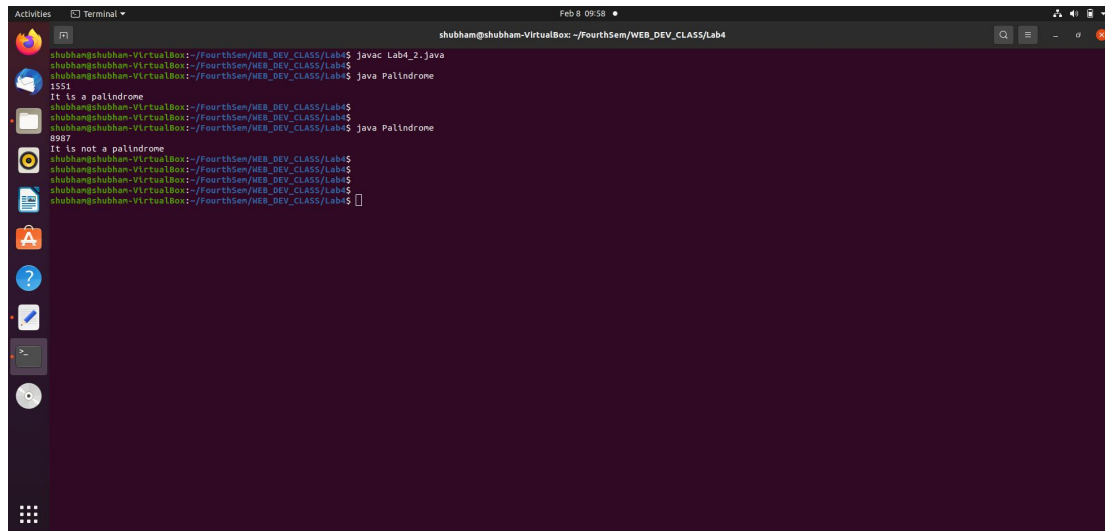
```

        System.out.println("It is a palindrome");

else
    System.out.println("It is not a palindrome");

sc.close();
}
}

```



The screenshot shows a terminal window with the following commands and output:

```

shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$ javac Lab4_2.java
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$ java Palindrome
1551
It is a palindrome
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$ java Palindrome
8987
It is not a palindrome
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$

```

2 a. PRINT THE FOLLOWING PATTERN IN THE QUESTION :-

```

class Pattern
{
    public static void main(String args[])
    {
        char ch='A';

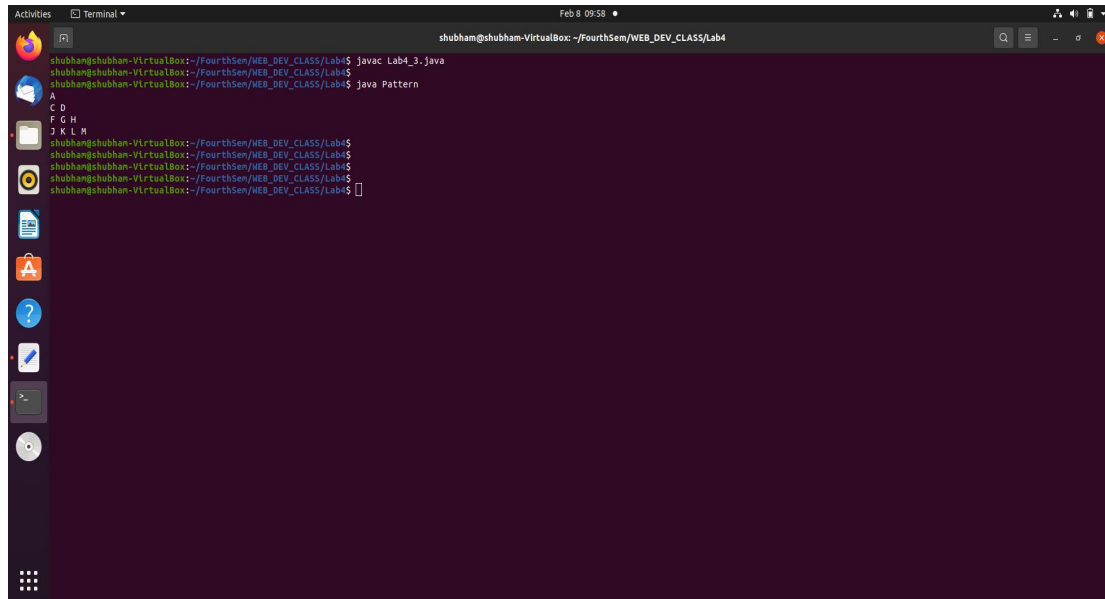
        for(int i=0;i<4;i++)
        {
            for(int j=0;j<=i;j++)
            {
                System.out.print(ch+" ");

                ch++;
            }

            ch++;
            System.out.print("\n");
        }
    }
}

```

```
}  
}
```



The screenshot shows a terminal window with the following content:

```
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$ javac Lab4_3.java  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$ java Pattern  
A  
C D  
F G H  
J K L M  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$  
shubham@shubham-VirtualBox:~/FourthSem/WEB_DEV_CLASS/Lab4$
```

2 .b . PRINT THE FOLLOWING PATTEN GIVEN IN THE QUESTION :-

```
class Pattern2  
{  
  
    public static void main(String[] args)  
    {  
        int rows = 5, k = 0, count = 0, count1 = 0;  
  
        for (int i = 1; i <= rows; ++i)  
        {  
            for (int space = 1; space <= rows - i; ++space)  
            {  
                System.out.print(" ");  
                ++count;  
            }  
  
            while (k != 2 * i - 1)  
            {  
                if (count <= rows - 1)  
                {  
                    System.out.print((i + k) + " ");  
                    ++count;  
                }  
            }  
        }  
    }  
}
```

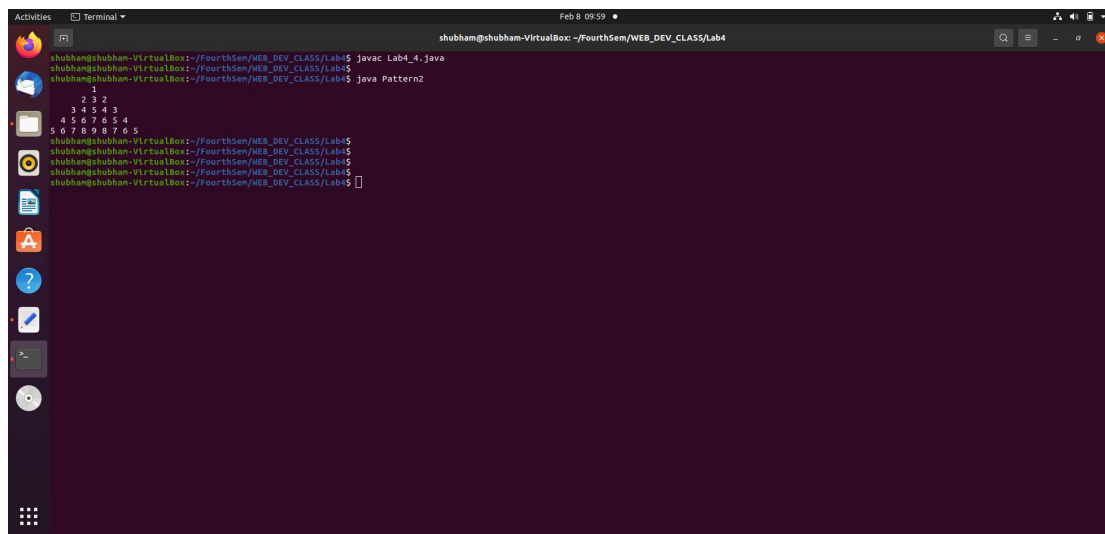
```

else
{
    ++count1;
    System.out.print((i + k - 2 * count1) + " ");
}

    ++k;
}
count1 = count = k = 0;

System.out.println();
}
}
}

```



The screenshot shows a terminal window with the following content:

```

shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ javac Lab4_4.java
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$ java Pattern2
    1
  2 2
3 4 5 4 3
4 5 6 7 6 5 4
5 6 7 8 9 8 7 6 5
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$
shubham@shubham-VirtualBox: ~/FourthSem/WEB_DEV_CLASS/Lab4$

```

The output of the Java program is a diamond-shaped pattern of numbers. The first line is '1'. The second line is '2 2'. The third line is '3 4 5 4 3'. The fourth line is '4 5 6 7 6 5 4'. The fifth line is '5 6 7 8 9 8 7 6 5'. The terminal window also shows the command prompt and the file path ~/FourthSem/WEB_DEV_CLASS/Lab4.