

WT Lab04

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Question 1

Program to print the corresponding grade for the given mark using if..else statement in Java

Solution

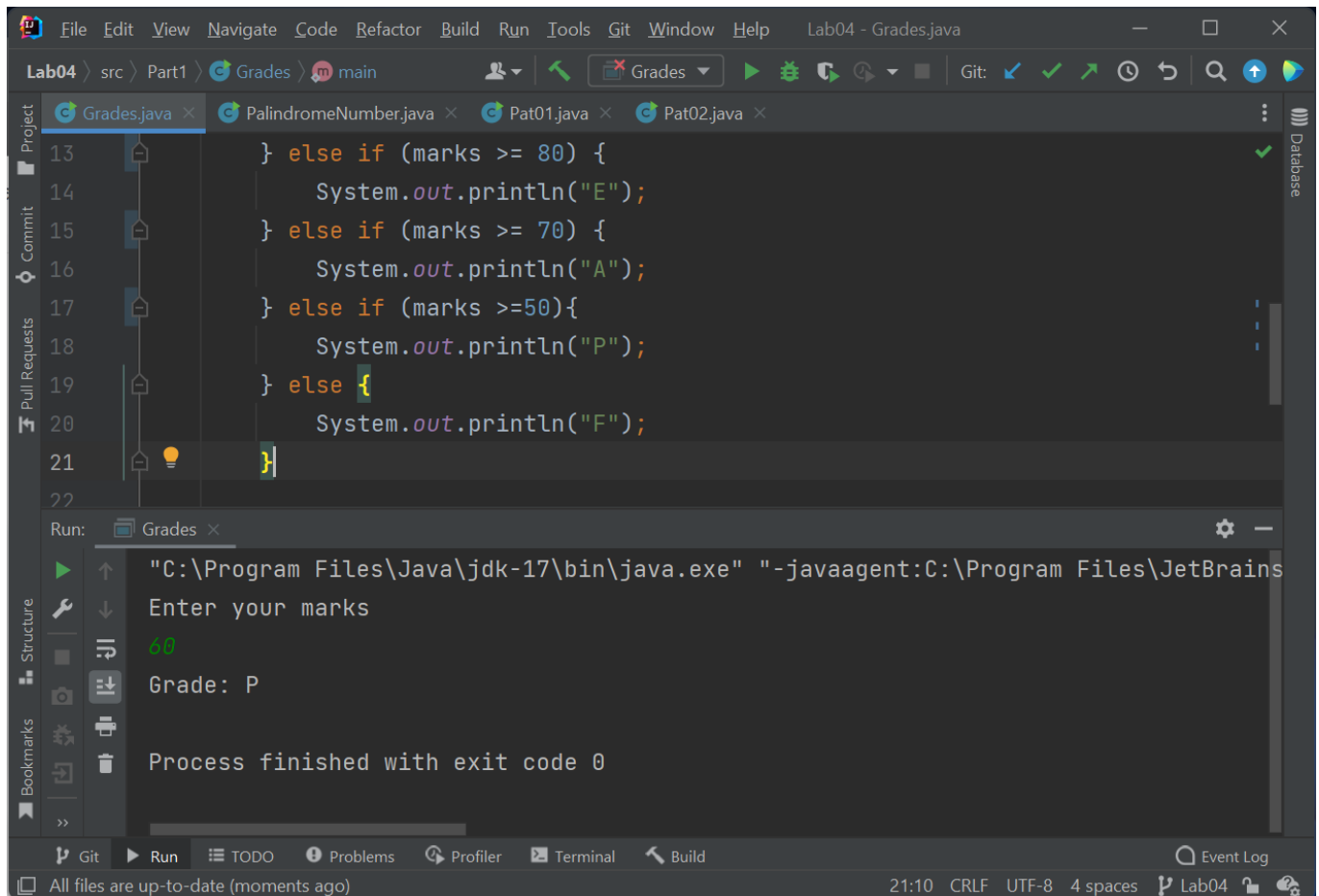
```
package Part1;

import java.util.Scanner;

public class Grades {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        System.out.println("Enter your marks");
        int marks = in.nextInt();
        System.out.print("Grade: ");
        if (marks >= 90) {
            System.out.println("O");
        } else if (marks >= 80) {
            System.out.println("E");
        } else if (marks >= 70) {
            System.out.println("A");
        } else if (marks >= 50) {
            System.out.println("P");
        } else {
            System.out.println("F");
        }

        in.close();
    }
}
```

Output



The screenshot shows an IDE with a project named 'Lab04'. The 'Grades.java' file is open, displaying a Java program that takes a mark as input and prints a corresponding grade. The code is as follows:

```
13 } else if (marks >= 80) {  
14     System.out.println("E");  
15 } else if (marks >= 70) {  
16     System.out.println("A");  
17 } else if (marks >= 50) {  
18     System.out.println("P");  
19 } else {  
20     System.out.println("F");  
21 }  
22 }
```

The 'Run' window shows the execution of the program. The output is:

```
"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Program Files\JetBrains  
Enter your marks  
60  
Grade: P  
Process finished with exit code 0
```

Question 2

Program to check a user entered number is palindrome or not.

Solution

```
package Part1;  
  
public class PalindromeNumber {  
  
    private boolean isPalin(int n) {  
        String str = Integer.toString(n);  
  
        int l = 0;  
        int r = str.length()-1;  
        while (l < r) {  
            if (str.charAt(l) != str.charAt(r))  
                return false;  
            l++;  
            r--;  
        }  
        return true;  
    }  
  
    public static void main(String[] args) {  
        PalindromeNumber obj = new PalindromeNumber();  
        System.out.println(obj.isPalin(12));  
    }  
}
```

```

        System.out.println(obj.isPalin(121));
    }
}

```

Output

```

12         return false;
13         l++;
14         r--;
15     }
16     return true;
17 }
18
19 public static void main(String[] args) {
20     PalindromeNumber obj = new PalindromeNumber();
21     System.out.println(obj.isPalin(12));

```

Run: PalindromeNumber

```

"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Program Files\JetBrains
false
true
Process finished with exit code 0

```

Build completed successfully in 1 sec, 99 ms (moments ago)

Question 3

Print the following pattern:

```

A
CD
FGH
JKLM

```

Solution

```

package Part2;

public class Pat01 {
    public static void main(String[] args) {

```

```

        char ch='A';

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

```

Output

```

package Part2;

public class Pat01 {
    public static void main(String[] args) {

        char ch='A';

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

```

Run: Pat01 x

A
CD
FGH
JKLM

Process finished with exit code 0

Question 4

Print the following pattern:

```

1
232
34543
4567654

```

Solution

```
package Part2;

public class Pat02 {
    public static void main(String[] args) {
        for (int i = 0; i < 5; i++) {
            for (int sp = 0; sp < 5 - i; sp++) {
                System.out.print(" ");
            }
            for (int leftside = i; leftside < 2*i; leftside++) {
                System.out.print(leftside);
            }

            for (int rightside = 2*i-2; rightside >= i; rightside--) {
                System.out.print(rightside);
            }
            System.out.println();
        }
    }
}
```

Output

```
Lab04 > src > Part2 > Pat02 > main
```

```
9      for (int leftside = i; leftside < 2*i; leftside++) {
10          System.out.print(leftside);
11      }
12
13      for (int rightside = 2*i-2; rightside >= i; rightside--) {
14          System.out.print(rightside);
15      }
16      System.out.println();
17  }
18  }
```

```
Run: Pat02 x
```

```
"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Program Files\JetBrains"
1
232
34543
4567654
```

```
Build completed successfully in 1 sec, 117 ms (moments ago)
```