**Using if-else if- else ladder**

1. Type the following program, compile and run it to understand what it does

import java.util.\*;  
  
public class Grades  
{  
 public static void main(String args[])  
 {  
 Scanner keyboardIn = new Scanner (System.in);  
 int mark;  
 System.out.print("Enter your exam mark: ");  
 mark = keyboardIn.nextInt();  
   
 if(mark >=90 && mark <=100)  
 {  
 System.out.print("Grade A");  
 }  
 else if(mark >=80 && mark <=89)  
 {  
 System.out.print("Grade B");  
 }  
 else if(mark >=60 && mark <=79)  
 {  
 System.out.print("Grade C");  
 }  
 else if(mark >=40 && mark <=59)  
 {  
 System.out.print("Grade D");  
 }  
 else  
 {  
 System.out.print("Grade E");  
 }  
 }  
}

1. The information given in the table below shows weather conditions for different temperatures. Write a program that will allow a user to enter any temperature and which will then display the corresponding weather condition for that temperature

|  |  |
| --- | --- |
| **Temperature** | **Condition** |
| Less than 0 | Freezing |
| 0 – 6 | Very Cold |
| 7 – 14 | Warm |
| 15 – 21 | Hot |
| Greater than 21 | Very Hot |

1. Write a program that will display the effects of an earthquake based on the Richter scale values shown below. The program should read the Richter scale value from the user and display the appropriate effects:

|  |  |
| --- | --- |
| **Richter scale value** | **Effect** |
| Less than 4 | Little |
| 4.0-4.9 | Windows shake |
| 5.0-5.9 | Walls crack; poor built buildings are destroyed |
| 6.0-6.9 | Chimneys tumble, some buildings are destroyed |
| 7.0-7.9 | Well build buildings are damaged |
| More than 7.9 | Most buildings are destroyed |

1. Write a program that will allow a user to enter the time (in hours) and display the appropriate message

|  |  |
| --- | --- |
| **Time (In hours)** | **Message** |
| 0 – 11 | Good morning |
| 12 – 17 | Good afternoon |
| 18 – 23 | Good night |
| Any other time | Time is out of range |

1. The Weather Station uses the information below to determine the category of wind depending on the wind speed. Write a program that will allow a user to enter a wind speed and display the category of wind corresponding to that speed

|  |  |
| --- | --- |
| **Wind Speed (mph)** | **Category** |
| Below 25 | Not a strong wind |
| 25 – 38 | Strong wind |
| 39 – 54 | Gale |
| 55 – 72 | Whole gale |
| Above 72 | Hurricane |

1. Write a program to display the effect of pollen based on the pollen index entered by the user. Use the information given in the table below

|  |  |
| --- | --- |
| **Pollen Index** | **Effect** |
| Less than 10 | Pleasant |
| 10 – 20 | Slightly unpleasant |
| 21 – 30 | Unpleasant |
| Over 30 | Stay Inside |