Assignment-3

Date Assigned :03:01:2023

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1. **Write program to find whether a given year is a leap year or not.**

**Ans:**

**import** java.util.Scanner;

**public** **class** Leap\_Year {

**public** **static** **void** main(String[] args) {

Scanner input=**new** Scanner(System.***in***);

System.***out***.println("Enter the year: ");

**int** year=input.nextInt();

**if**((year%400==0) || ((year%4==0)&& (year%100!=0))){

System.***out***.println("leap year: "+year);}

**else**

System.***out***.println("Not a leap year "+year);}}

**Output:** Enter the year:

19000

Not a leap year 19000

Enter the year:

2020

leap year: 2020

Enter the year:

2000

leap year: 2000

1. **program to read roll no, name and marks of three subjects and calculate the total, percentage and division   
   Test Data :  
   Input the Roll Number of the student :784  
   Input the Name of the Student :James  
   Input the marks of Physics, Chemistry and Computer Application : 70 80 90  
   Expected Output :  
   Roll No : 784  
   Name of Student : James  
   Marks in Physics : 70  
   Marks in Chemistry : 80  
   Marks in Computer Application : 90  
   Total Marks = 240  
   Percentage = 80.00  
   Division = First**

**Ans:**

**import** java.util.Scanner;

**public** **class** Total\_Percentage

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

String div="First";

System.***out***.println("Enter the roll no of the student: ");

**int** roll\_no=sc.nextInt();

System.***out***.println("Enter the name of the student: ");

String name=sc.next();

System.***out***.println("Enter the Physics marks: ");

**int** physics=sc.nextInt();

System.***out***.println("Enter the Chemistry marks: ");

**int** chemistry=sc.nextInt();

System.***out***.println("Enter the Computer Application marks: ");

**int** computer=sc.nextInt();

System.***out***.println("Roll No: "+roll\_no);

System.***out***.println("Name of the Student: "+name);

System.***out***.println("Marks in Physics: "+physics);

System.***out***.println("Marks in Chemistry: "+chemistry);

System.***out***.println("Marks in Computer Application: "+computer);

**int** total=physics+chemistry+computer;

**float** percentage=(total/3);

System.***out***.println("Total Mark = "+total);

System.***out***.println("Percentage = "+percentage);

System.***out***.println("Division = "+div);

}

}

**Output:**

Enter the roll no of the student:

784

Enter the name of the student:

James

Enter the Physics marks:

70

Enter the Chemistry marks:

80

Enter the Computer Application marks:

90

Roll No: 784

Name of the Student: James

Marks in Physics: 70

Marks in Chemistry: 80

Marks in Computer Application: 90

Total Mark = 240

Percentage = 80.0

Division = First

1. **program to read temperature in centigrade and display a suitable message**

**Ans:**

**import** java.util.Scanner;

**public** **class** Temperature\_centigrad {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the temperature: ");

**int** temperature=sc.nextInt();

**if** (temperature<=20){

System.***out***.println("Very Cold!..Freezing....!Need blankets immediatetly");

}

**else** **if**(temperature>=21&&temperature<=30) {

System.***out***.println("Normal Weather! I can manage");

}

**else** **if**(temperature>=31&&temperature<=40) {

System.***out***.println("Weather is warm");

}

**else** **if**(temperature>40) {

System.***out***.println("Weather is too hot! need some cool water");

}

}

}

**Output:**

Enter the temperature:

-100

Very Cold!..Freezing....!Need blankets immediatetly

Enter the temperature:

29

Normal Weather! I can manage

Enter the temperature:

35

Weather is warm

Enter the temperature:

90

Weather is too hot! need some cool water

**4.program to check whether a character is an alphabet, digit or special character.**

**Ans:**

**import** java.util.Scanner;

**public** **class** Alpha\_Digit\_SpecialCharacter {

**public** **static** **void** main(String[] args) {

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter any character: ");

**char** character=sc.next().charAt(0);

**if** ((character>='A' && character<='Z')||(character>='a' && character<='z')) {

System.***out***.println(character+" is alphabet");

}

**else** **if**(character>='0' &&character<='9')

{

System.***out***.println(character+" is digit");

}

**else**

{

System.***out***.println( character+" is Special Character");

}}}

Enter any character:

2

2 is digit

Enter any character:

%

% is Special Character

Enter any character:

K

K is alphabet

Enter any character:

u

u is alphabet

1. **Write a program in to accept a grade and declare the equivalent description**

|  |  |
| --- | --- |
| **Grade** | **Description** |
| **E** | **Excellent** |
| **V** | **Very Good** |
| **G** | **Good** |
| **A** | **Average** |
| **F** | **Fail** |

**Test Data :  
Input the grade :A  
*Expected Output* :  
You have chosen : Average**

**Ans:**

**import** java.util.Scanner;

**public** **class** Grade\_Description {

**public** **static** **void** main(String[] args)

{

System.***out***.println("The accepted grade : options are A, V, E, G, F please enter in capital format..!");

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the grade: ");

**char** grade=sc.next().charAt(0);

**switch**(grade)

{

**case** 'E':

{

System.***out***.println("Excellent");

**break**;

}

**case** 'V':

{

System.***out***.println("Very Good");

**break**;

}

**case** 'G':

{

System.***out***.println("Good");

**break**;

}

**case** 'A':

{

System.***out***.println("Average");

**break**;

}

**case** 'F':

{

System.***out***.println("Fail");

**break**;

}

**default**:

System.***out***.println("Please enter the grade which i display in above options..");

**break**;

}

}

}

**Output:**

The accepted grade : options are A, V, E, G, F please enter in capital format..!

Enter the grade:

V

Very Good

Enter the grade:

A

Average

Enter the grade:

U

Please enter the grade which i display in above options..

1. **Write a program to read any day number in integer and display day name in the word.**

**Ans:** We can also use the switch conditions becoz the number is finite (refer 6 th question)

**import** java.util.Scanner;

**public** **class** Day\_Name {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the number from 1 to 7: ");

**int** day\_num=sc.nextInt();

**if**(day\_num==1) {

System.***out***.println("Sunday");

}

**else** **if**(day\_num==2) {

System.***out***.println("Monday");

}

**else** **if**(day\_num==3) {

System.***out***.println("Tuesday");

}

**else** **if**(day\_num==4) {

System.***out***.println("Wednesday");

}

**else** **if**(day\_num==5) {

System.***out***.println("Thursday");

}

**else** **if**(day\_num==6) {

System.***out***.println("Friday");

}

**else** **if**(day\_num==7) {

System.***out***.println("Saturday");

}

**else** {

System.***out***.println("Alowed numbers from 1 to 7 only");

}

}}

**Output:**

Enter the number from 1 to 7:

3

Tuesday

Enter the number from 1 to 7:

0

Alowed numbers from 1 to 7 only

Enter the number from 1 to 7:

1

Sunday

1. **Read integer value and display the number of days for this month.**

**6.Write a program to read any number of day in integer and display the day name in the number:**

**Ans:**

**import** java.util.Scanner;

**public** **class** Month\_How\_Many\_Days {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the month number from 1-January to 12-December");

**int** month=sc.nextInt();

String name="January";

System.***out***.println("Enter the year: ");

**int** year=sc.nextInt();

**switch**(month)

{

**case** 1:

**case** 3:

**case** 5:

**case** 7:

**case** 8:

**case** 10:

**case** 12:

System.***out***.println("31 days in this month"+month);

**break**;

**case** 4:

**case** 6:

**case** 9:

**case** 11:

System.***out***.println("30 days in this month of "+month);

**break**;

**case** 2:

**if**((year%400==0) || ((year%4==0)&& (year%100!=0)))

{

System.***out***.println("leap year: "+year);

System.***out***.println("Only 29 days in a month");

}

**else**

{

System.***out***.println("Not a leap year"+year);

System.***out***.println("only 28 days in a month");

}

**break**;

**default**:

System.***out***.println("Please enter the number from 1 to 12 only ..!");

**break**;

}

}

}

**Output:**

Enter the month number from 1-January to 12-December

2

Enter the year:

2020

leap year: 2020

Only 29 days in a month

Enter the month number from 1-January to 12-December

9

Enter the year:

2019

30 days in this month of 9

Enter the month number from 1-January to 12-December

10

Enter the year:

1998

31 days in this month of 10