HARSHIT VERMA 18114029

1>Write a JAVA program which asks the user to supply an alphabet in upper case from the key board. Then convert the alphabet in lower case.

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {[String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) s1="";
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) s=sc.nextLine();
12. **for**(**int** i=0;i<s.length();i++)
13. s1=s1+[Character](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+character).toLowerCase(s.charAt(i));
14. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(s1);
15. }
16. }

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2>Write a JAVA program to display the names of the Months of the year, depending upon the number entered by the user using: (i) if – else (ii) switch – case

A>

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. **int** n=sc.nextInt();
12. **if**(n==1)
13. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("January");
14. **if**(n==2)
15. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("february");
16. **if**(n==3)
17. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("March");
18. **if**(n==4)
19. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("April");
20. **if**(n==5)
21. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("May");
22. **if**(n==6)
23. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("June");
24. **if**(n==7)
25. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("July");
26. **if**(n==8)
27. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("August");
28. **if**(n==9)
29. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("September");
30. **if**(n==10)
31. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("October");
32. **if**(n==11)
33. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("November");
34. **if**(n==12)
35. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("December");
36. }
37. }

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December

1. b>**import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. **int** n=sc.nextInt();
13. **switch**(n){
14. **case** 1:
15. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("January");**break**;
16. **case** 2:
17. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("february");**break**;
18. **case** 3:
19. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("March");**break**;
20. **case** 4:
21. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("April");**break**;
22. **case** 5:
23. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("May");**break**;
24. **case** 6:
25. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("June");**break**;
26. **case** 7:
27. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("July");**break**;
28. **case** 8:
29. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("August");**break**;
30. **case** 9:
31. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("September");**break**;
32. **case** 10:
33. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("October");**break**;
34. **case** 11:
35. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("November");**break**;
36. **case** 12:
37. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("December");**break**;
38. **default**:
39. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("wrong input");}
40. }
41. }

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12

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December

3>Read a positive integer value, and compute the following sequence: If the number is even, halve it; if it's odd, multiply by 3 and add 1. Repeat this process until the value is 1, printing out each value. Finally print out how many of these operations you performed. Write a JAVA Program.

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {**int** c=0;
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. **int** n=sc.nextInt();
12. **while**(n!=1){
13. **if**(n%2==0)
14. n=n/2;
15. **else**
16. n=n\*3+1;
17. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(n);c++;
18. } [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Number of operations: "+c);}
19. }

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1

Number of operations: 8

4>Write a JAVA program to find the sum of the following series using (a) for loop (b) while loop and (c) do-while loop

a>Sum = 1+ 5 +10 +15 + ....+ n . b> 1-1/1!+2/2!-3/3!+4/4!... c>x-x3/3!+x5/5!... d>12 +22+32….e>12-32+52…

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;

6. **class** Ideone
7. {**public** **static** **int** fact(**int** n)
8. {**if**(n==1 || n==0)
9. **return** 1;
10. **else**
11. **return** fact(n-1)\*n;
12. }
13. **public** **static** **double** sum1(**int** n)
14. {**int** sum=1;
15. **for**(**int** i=1;i<=n/5;i++)
16. sum=sum+i\*5;
17. **return** sum;
18. }
19. **public** **static** **double** sum2(**int** n)
20. {**double** sum=1;
21. **for**(**int** i=1;i<=n;i++)
22. sum=sum+[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(-1,i)\*i/fact(i);
23. **return** sum;
24. }
25. **public** **static** **double** sum3(**int** n,**int** x)
26. {**double** sum=0;**int** c=0;
27. **for**(**int** i=1;i<=n;i+=2)
28. sum=sum+[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(x,i)\*[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(-1,c)/fact(i);
29. **return** sum;
30. }
31. **public** **static** **double** sum4(**int** n)
32. {**double** sum=0;
33. **for**(**int** i=1;i<=n;i++)
34. sum=sum+[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(i,2);
35. **return** sum;
36. }
37. **public** **static** **double** sum5(**int** n)
38. {**double** sum=0;
39. **for**(**int** i=1;i<=n;i++)
40. sum=sum+[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(i,2)\*[Math](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+math).pow(-1,i+1);**return** sum;
41. }
42. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
43. {
44. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
45. **int** n=sc.nextInt();**int** x=sc.nextInt();
46. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("sum 1: "+sum1(n));
47. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("sum 2: "+sum2(n));
48. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("sum 3: "+sum3(n,x));
49. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("sum 4: "+sum4(n));
50. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("sum 5: "+sum5(n));
52. }
53. }

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sum 1: 16.0

sum 2: 0.632120811287478

sum 3: 1.1752011684303352

sum 4: 385.0

sum 5: -55.0

5> Write a JAVA program to simulate a calculator where the user enters two integer numbers and an operator (+, -, \*, /, %). The program then carries out the specified operation and displays the result. Write using if statement as well as switch statement.

1. a> **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. **int** a=sc.nextInt();**int** b=sc.nextInt();
12. **char** c=sc.next().charAt(0);
13. **if**(c=='+')
14. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a+b);
15. **if**(c=='-')
16. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a-b);
17. **if**(c=='\*')
18. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a\*b);
19. **if**(c=='/')
20. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a/b);
21. **if**(c=='%')
22. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a%b);

25. }
26. }

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1 3 -

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1. b> **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {
10. Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
11. **int** a=sc.nextInt();**int** b=sc.nextInt();
12. **char** c=sc.next().charAt(0);
13. **switch**(c)
14. {**case** '+':
15. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a+b);**break**;
16. **case** '-':
17. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a-b);**break**;
18. **case** '\*':
19. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a\*b);**break**;
20. **case** '/':
21. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a/b);**break**;
22. **case** '%':
23. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(a%b);**break**;
24. **default**:
25. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("wrong input ");
26. }
27. }
28. }

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-2

6> Write a JAVA program to display the table of a given number.

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {Scanner sc=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
10. **int** n=sc.nextInt();
11. **for**(**int** i=1;i<=10;i++)
12. {[System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(n+" x "+i+" = "+(n\*i));
14. }
16. }
17. }

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4 x 1 = 4

4 x 2 = 8

4 x 3 = 12

4 x 4 = 16

4 x 5 = 20

4 x 6 = 24

4 x 7 = 28

4 x 8 = 32

4 x 9 = 36

4 x 10 = 40

7> Write a JAVA program to check for palindromes for Integers as well as string using( For example 1221, 57866875 and avon sees nova are some palindromes): (i) if – else (ii) switch – case

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. **class** Palindrome
6. {
7. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
8. {
9. Scanner in = **new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
10. [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) s = in.nextLine();
11. **if**(s.equals("integer"))
12. {
13. **int** a = in.nextInt();
14. **int** b = reverseInt(a);
15. **if**( a == b)
16. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Integer is palindrome");
17. **else**
18. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Integer is palindrome");
20. }
21. **else** **if**(s.equals("string"))
22. {
23. [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) a = in.nextLine();
24. [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) b = reverseString(a);
25. **if** (a.equals(b))
26. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("String is palindrome");
27. **else**
28. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("String is not palindrome");
29. }
30. **else**
31. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Wrong input");
32. }
33. **static** **int** reverseInt(**int** a)
34. {
35. **int** rev = 0, rem = 0;
36. **while**(a > 0)
37. {
38. rem = a % 10;
39. a/=10;
40. rev = rev \* 10 + rem;
41. }
42. **return** rev;
43. }
44. **static** [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) reverseString([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) a)
45. {
46. **int** l = a.length();
47. **char**[] ch = **new** **char**[l];
48. **for**(**int** i = 0 ; i < l ; i++)
49. {
50. ch[l - i -1] = a.charAt(i);
51. }
52. [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string) b = [String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string).valueOf(ch);
53. **return** b;
54. }
55. }

 stdin

 copy

string

avon sees nova

stdout

String is palindrome

8>Write a JAVA program to find the maximum and minimum of n numbers using: (a) for loop (b) while loop and (c) do-while loop

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. **class** Loops
6. {
7. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
8. {
9. Scanner s = **new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
10. **int** n = s.nextInt();
11. **int** max, min;
12. **int**[] A = **new** **int**[n];
13. **for**(**int** i = 0 ; i < n ; i++)
14. A[i] = s.nextInt();
15. max = A[0];
16. min = A[0];
17. **for**(**int** i = 0 ; i < n ; i++)
18. {
20. **if**(A[i] > A[0])
21. max = A[i];
22. **if**(A[i] < A[0])
23. min = A[i];
24. }
25. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Using 'for loop' answer**\n**min = "+min +"**\t**max = "+max);
27. **int** i = 0;
28. **while**(i < n)
29. {
30. max = A[0];
31. min = A[0];
32. **if**(A[i] > A[0])
33. max = A[i];
34. **if**(A[i] < A[0])
35. min = A[i];
36. i++;
37. }
38. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Using 'while loop' answer**\n**min = "+min +"**\t**max = "+max);
40. i = 0;
41. **do**
42. {
43. max = A[0];
44. min = A[0];
45. **if**(A[i] > A[0])
46. max = A[i];
47. **if**(A[i] < A[0])
48. min = A[i];
49. i++;
50. }**while**(i < n);
51. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Using 'do-while loop' answer**\n**min = "+min +"**\t**max = "+max);
52. }
53. }

 stdin

4

4 5 6 9

 stdout

 Using 'for loop' answer

min = 4 max = 9

Using 'while loop' answer

min = 4 max = 9

Using 'do-while loop' answer

min = 4 max = 9

9>Write a JAVA program to check if given two numbers are relatively prime or not.

1. **import** java.util.\*;
2. **import** java.lang.\*;
4. **class** Relative\_Prime
5. {
6. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
7. {
8. Scanner s = **new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
9. **int** a = s.nextInt();
10. **int** b = s.nextInt();
11. **int** c = 0;
12. **if** (b > a)
13. {
14. c = a;
15. a = b;
16. b = c;
17. }
18. **while**(a % b != 0)
19. {
20. c = a % b;
21. a = b;
22. b = c;
23. }
24. **if**(c == 1)
25. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Numbers are relative prime");
26. **else**
27. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Numbers are not relative prime");
28. }
29. }

 stdin

12

12

 stdout

Numbers are not relative prime

10>Write a JAVA program to find the perfect numbers between 1 to 100000. m is a perfect number if σ (m) = 2m , that is if m is the sum of all its positive divisors other than itself.

1. **import** java.util.\*;
2. **import** java.lang.\*;
4. **class** Perfect\_Number
5. {
6. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
7. {
8. **int** m, i, sum = 0;
9. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println("Perfect nembers are:-");
10. **for** (m = 1 ; m <= 100000 ; m++)
11. {
12. sum = 0;
13. **for**(i = 1 ; i < m ; i++)
14. {
15. **if**(m % i == 0)
16. sum = sum + i;
17. }
18. **if**(sum == m)
19. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(m);
20. }
21. }
22. }

Perfect nembers are:-

6

28

496

8128

11>Write a JAVA program to generate Hemachandra series, 1, 2, 3, 5, 8, 13, 21...

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
5. */\* Name of the class has to be "Main" only if the class is public. \*/*
6. **class** Ideone
7. {
8. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
9. {**int** a=0,b=1,c;
11. **for**(**int** i=1;i<=10;i++)
12. {c=a+b;
13. a=b;b=c;
14. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.print(b+",");
16. }
17. }
18. }

Top of Form

Bottom of Form

 stdout

1,2,3,5,8,13,21,34,55,89