

Daily practice program

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1. Matrix multiplication:

```
class main{  
    public static void main(String args[]){  
        int a[][]={{1,2},{3,4}};  
        int b[][]={{5,6},{7,8}};  
        int c[][]=new int[2][2];  
        for(int i=0;i<2;i++)  
            for(int j=0;j<2;j++)  
                for(int k=0;k<2;k++)  
                    c[i][j] += a[i][k]*b[k][j];  
        for(int i=0;i<2;i++)  
            for(int j=0;j<2;j++)  
                System.out.print(c[i][j]+" ");  
        System.out.println();  
    }  
}
```

2. Inverted pyramid:

```
class main{  
    public static void main(String[] args){  
        int n=5;  
        for(int i=n; i>=1; i--) {  
            for(int j=1; j<=i; j++)  
                System.out.print("*");  
            System.out.println();  
        }  
    }  
}
```

3. Square root:

```
class main{  
    public static void main(String[] args){  
        int n=25;  
    }  
}
```

```
int r = (int) Math.sqrt(n);
if(r*r == n)
    System.out.println(r + " " + (-r));
else
    System.out.println("Not perfect");
```

33.

5. Hollow square:

```
class main{
    public static void main(String[] args){
        int n=5;
        for(int i=1;i<=n;i++){
            for(int j=1;j<=n;j++){
                if(i==1 || i==n || j==1 || j==n)
                    System.out.print('*');
                else
                    System.out.print(" ");
            }
            System.out.println();
        }
    }
}
```

6. Remove vowels:

```
class main{
    public static void main(String[] args){
        String s = "education";
        for(char c:s.toCharArray()){
            if("aeiouAEIOU".indexOf(c) == -1)
                System.out.print(c);
        }
    }
}
```

7. Reverse alphabet order:

```
import java.util.*;
class main{
    public static void main(String[] args){
```

```
char a[] = "Hello".toCharArray();
Array sort(a);
for (int i=a.length-1; i>=0; i--) {
    System.out.print(a[i]);
}
}
```

8. Armstrong number:

```
class main {
public static void main (String []args) {
    int n=153, sum=0, t=n;
    while (t>0) {
        int d=t%10;
        sum+=d*d*d;
        t=t/10;
    }
    System.out.println(sum==n ? "Armstrong" : "Not");
}
}
```

9. Character search:

```
class main {
public static void main (String args[]) {
    String s="java";
    char ch='a';
    for (int i=0; i<s.length(); i++) {
        if (s.charAt(i)==ch)
            System.out.println("Index "+i);
    }
}
}
```

10. Composite count:

```
class main {
public static void main (String []args) {
    int a[]={4,5,6,7};
    int count=0;
    for (int i=0; i<a.length; i++) {
        if (a[i]>1) {
            for (int j=2; j<=a[i]; j++) {
                if (a[i] % j == 0) {
                    count++;
                }
            }
        }
    }
    System.out.println(count);
}
}
```

```
for(int n: a){  
    int p=0;  
    for(int i=2; i<=n/2; i++)  
        if(n % i == 0) p=1;  
    if(p==1) count++;  
}  
System.out.println(count);  
}
```

11. Mth max & nth min (without using built-in methods, sorting)
import java.util.*;
class main{
 public static void main(String[] args){
 int a[] = {5, 2, 9, 1};
 Arrays.sort(a);
 int min=a[0];
 int max=a[a.length-1];
 System.out.println("Sum = " + (min+max));
 }
}

12. ATM balance:

```
class main{  
    public static void main(String[] args){  
        int total=2+2000+3+500+1+200;  
        System.out.println("Balance = " + total);  
    }  
}
```

13. Palindrome number (without using functions)

```
class main{  
    public static void main(String[] args){  
        int n=121, rev=0, t=n;  
        while(t>0){  
            rev=rev*10+t%10;  
            t=t/10;  
        }  
        if(rev==n) System.out.println("Palindrome");  
        else System.out.println("Not a Palindrome");  
    }  
}
```

7 / = 10;

}

```
System.out.println(n==rev?"Palindrome","Not");
```

}

14. Decimal to binary & octal:

```
class main{ public static void main(String[] args){  
    int n=10;  
    System.out.println(Integer.toBinaryString(n));  
    System.out.println(Integer.toOctalString(n));  
}}
```

15. Bonus salary:

```
class main{  
    public static void main(String[] args){  
        double sal=9000, bonus=0;  
        char g='A';  
        bonus = g=='A'? sal*0.05 : sal*0.10;  
        if (sal<10000) bonus += sal*0.02;  
        System.out.println(sal+bonus);  
}}
```

16. Perfect numbers:

```
class main{  
    public static void main(String[] args){  
        for(int n=2; n<=30; n++){  
            int sum=1;  
            for(int i=2; i<=n/2; i++)  
                if (n % i == 0) sum+=i;  
            if (sum==n) System.out.println(n);  
        }  
    }  
}
```

17. Gray code:

```
class main{  
    public static void main(String[] args){  
        int n=1;  
        int g=n^(n>>1);  
        System.out.println(Integer.toBinaryString(g));  
    }  
}
```

18. Tax:

```
class main{  
    public static void main(String[] args){  
        double inc=400000, tax;  
        if (inc<=150000) tax=0;  
        else if (inc<=300000) tax=inc*0.1;  
        else if (inc<=500000) tax=inc*0.2;  
        else tax=inc*0.3;  
        System.out.println(tax);  
    }  
}
```

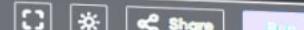
19. Average until -1

```
import java.util.*;  
class main{  
    public static void main(String[] args){  
        Scanner sc=new Scanner(System.in);  
        int n,sum=0,c=0;  
        while ((n=sc.nextInt())!= -1){  
            sum+=n;  
            c++;  
        }  
        System.out.println("Average: "+(sum/c));  
    }  
}
```

20. Count upper, lower, digits:

```
class main{  
    public static void main(String[] args){  
        String s = "java123";  
        int u=0, l=0, d=0;  
        for (char c:s.toCharArray()) {  
            if (Character.isUpperCase(c)) u++;  
            else if (Character.isLowerCase(c)) l++;  
            else if (Character.isDigit(c)) d++;  
        }  
        System.out.println(u+ " "+l+ " "+d);  
    }  
}
```

```
Main.java
1- class Main{
2- public static void main(String args[]){
3 int total=2*2000+3*500+1*200;
4 System.out.println("Balance="+total);
5 }
6 }
```

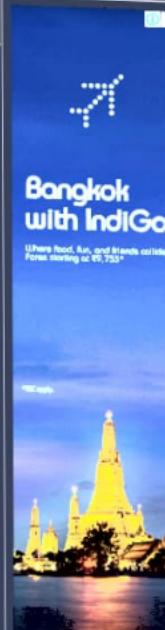


Output

Balance=5700

--- Code Execution Successful ---

Q10



Main.java



Run

Output

Clear

```
1- class Main{  
2- public static void main(String args[]){  
3- double inc=400000.tax;  
4- if(inc<=150000) tax=0;  
5- else if(inc<=300000) tax=inc*0.1;  
6- else if(inc<=500000) tax=inc*0.2;  
7- else tax=inc*0.3;  
8- System.out.println(tax);  
9- }}  
10
```

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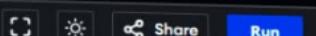
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Main.java



Output

Clear

```
1. class Main{
2. public static void main(String args[]){
3. String s="education";
4. for(char c:s.toCharArray()){
5. if("aeiouAEIOU".indexOf(c)==-1)
6. System.out.print(c);
7. }
8. }
9. }
```

dctn
==== Code Execution Successful ===



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Main.java

```
1 class Main{
2 public static void main(String args[]){
3 String s="Java123";
4 int u=0,l=0,d=0;
5 for(char c:s.toCharArray()){
6 if(Character.isUpperCase(c)) u++;
7 else if(Character.isLowerCase(c)) l++;
8 else if(Character.isDigit(c)) d++;
9 }
10 System.out.println(u+" "+l+" "+d);
11 }}
```



Output

1 3 3

--- Code Execution Successful ---

Clear

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```
Main.java
1- class Main{
2- public static void main(String args[]){
3- int n=25;
4- int r=(int)Math.sqrt(n);
5- if(r*r==n)
6- System.out.println(r+" "+(-r));
7- else
8- System.out.println("Not perfect");
9- }
10 }
```



Output

```
5 -5
--- Code Execution Successful ---
```

Clear



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Main.java

```
1- import java.util.*;
2- class Main{
3- public static void main(String args[]){
4- int a[]={5,2,9,1};
5- Arrays.sort(a);
6- int min=a[0];
7- int max=a[a.length-1];
8- System.out.println("Sum-"+(min+max));
9- }
10
```



Run

Output

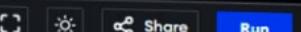
Clear

Sum=7

--- Code Execution Successful ---

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Main.java



```
1- class Main{  
2- public static void main(String args[]){  
3- int a[]={4,5,6,7};  
4- int count=0;  
5- for(int n:a){  
6- int f=0;  
7- for(int i=2;i<=n/2;i++)  
8- if(n%i==0) f=1;  
9- if(f==1) count++;  
10 }  
11 System.out.println(count);  
12 }  
13 }
```

Run

Output

Clear

```
2  
==== Code Execution Successful ===
```

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Main.java



Run

Output

Clear

```
1- class Main{
2- public static void main(String args[]){
3- int a[][]={{1,2},{3,4}};
4- int b[][]={{5,6},{7,8}};
5- int c[][]=new int[2][2];
6- for(int i=0;i<2;i++)
7- for(int j=0;j<2;j++)
8- for(int k=0;k<2;k++)
9- c[i][j]+=a[i][k]*b[k][j];
10- for(int i=0;i<2;i++){
11- for(int j=0;j<2;j++)
12- System.out.print(c[i][j]+" ");
13- System.out.println();
14- }
15- }
16
```

```
19 22
43 50
--- Code Execution Successful ---
```



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Main.java



Run

Output

Clear

```
1 class Main{  
2 public static void main(String args[]){  
3 for(int n=2;n<=30;n++){  
4 int sum=1;  
5 for(int i=2;i<=n/2;i++)  
6 if(n%i==0) sum+=i;  
7 if(sum==n) System.out.println(n);  
8 }  
9 }}  
10
```

6
28
--- Code Execution Successful ---

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Main.java

```
1- class Main{  
2- public static void main(String args[]){  
3- int n=25;  
4- int r=(int)Math.sqrt(n);  
5- if(r*r==n)  
6- System.out.println(r+" "+(-r));  
7- else  
8- System.out.println("Not perfect");  
9- }  
10 }
```



Run

Output

Clear

5 -5

--- Code Execution Successful ---

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Main.java



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Run

Output

Clear

```
1 - class Main{  
2 -     public static void main(String args[]){  
3 -         double sal=9000.bonus=0;  
4 -         char g='A';  
5 -         bonus = g=='A'?sal*0.05:sal*0.10;  
6 -         if(sal<10000) bonus+=sal*0.02;  
7 -         System.out.println(sal+bonus);  
8 -     }  
9 - }
```

9630.0

--- Code Execution Successful ---

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Main.java

```
1 class Main{
2     public static void main(String args[]){
3         String s="java";
4         char ch='a';
5         for(int i=0;i<s.length();i++){
6             if(s.charAt(i)==ch)
7                 System.out.println("Index "+i);
8         }
9     }
```



Run

Output

Clear

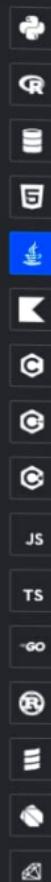
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==== Code Execution Successful ===

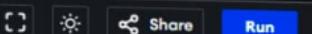
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Main.java



```
1 import java.util.*;
2 class Main{
3 public static void main(String args[]){
4 char a[]{"hello".toCharArray();
5 Arrays.sort(a);
6 for(int i=a.length-1;i>=0;i--)
7 System.out.print(a[i]);
8 }}
```

Run

Output

ollhe
==== Code Execution Successful ===

Clear

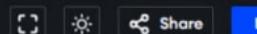


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```
Main.java

1- class Main{
2- public static void main(String args[]){
3- int n=5;
4- for(int i=1;i<=n;i++){
5- for(int j=1;j<=n;j++){
6- if(i==1||i==n||j==1||j==n)
7- System.out.print("#");
8- else
9- System.out.print(" ");
10 }
11 System.out.println();
12 }
13 }}
```



un

Output

Clea

```
$$$$$  
$ $  
$ $  
$ $  
$ $  
$$$$$  
--- Code Execution Successful ---
```

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Main.java

```
1- class Main{  
2- public static void main(String args[]){  
3- int n=121,rev=0,t=n;  
4- while(t>0){  
5- rev=rev*10+t%10;  
6- t/=10;  
7- }  
8- System.out.println(n==rev?"Palindrome":"Not");  
9- }}  
10
```



Run

Output

Clear

Palindrome

==== Code Execution Successful ===



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Main.java



Output

Clear

```
1 class Main{  
2 public static void main(String args[]){  
3 int n=7;  
4 int g=n^(n>>1);  
5 System.out.println(Integer.toBinaryString(g));  
6 }}  
7
```

100

==== Code Execution Successful ===

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Main.java



Share



Run

Output

Clear

```
1. class Main{  
2.     public static void main(String args[]){  
3.         int n=153,sum=0,t=n;  
4.         while(t>0){  
5.             int d=t%10;  
6.             sum+=d*d*d;  
7.             t/=10;  
8.         }  
9.         System.out.println(sum==n?"Armstrong":"Not");  
10    }  
11}
```

Armstrong

--- Code Execution Successful ---

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Main.java

```
1- class Main{  
2- public static void main(String args[]){  
3- int n=10;  
4- System.out.println(Integer.toBinaryString(n));  
5- System.out.println(Integer.toOctalString(n));  
6- }}  
7- |
```



Output

Clear

```
1010  
12  
--- Code Execution Successful ---
```

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Main.java



Run

Output

Clear

```
1 class Main{  
2 public static void main(String args[]){  
3 for(int n=2;n<=30;n++){  
4 int sum=1;  
5 for(int i=2;i<=n/2;i++)  
6 if(n%i==0) sum+=i;  
7 if(sum==n) System.out.println(n);  
8 }  
9 }}  
10
```

6
28
--- Code Execution Successful ---

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