

## Daily practice program-1

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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");
}
}

```

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

```

11. Mth max & nth min

```

import java.util.*;
class main{
    public static void main(String[] args){
        int a[] = {5, 2, 9, 1};
        Arrays.sort(a);
        int min = a[1];
        int max = a[a.length-2];
        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:

```

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 (n==rev)
            System.out.println("It is a Palindrome number");
        else
            System.out.println("It is not a Palindrome number");
    }
}

```

```
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.toString(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.isUpper(c)) u++;  
            else if (Character.isLower(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

Clear

Balance=5700

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Main.java

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```
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
```

Output

[Clear](#)

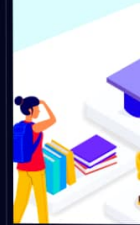
80000.0

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Main.java



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```
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
```

Output

Clear

dctn

=== Code Execution Successful ===





## Output

Clear

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  }}
12
```

1 3 3

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Main.java



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Output

Clear

```
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
```

5 -5

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### Output

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



Main.java



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Run

```
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
```

Output

Clear

2

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Main.java



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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

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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

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Main.java



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Run

Output

Clear

```
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
```

5 -5

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Main.java



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Run

```
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
```

Output

Clear

9630.0

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Main.java



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Run

Output

Clear

```
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
```

```
Index 1
Index 3
```

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





Main.java



Share

Run

```
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- }}
9
```

Output

Clear

```
ollhe
=== Code Execution Successful ===
```





Main.java



Share

Run

Output

Clear

```
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  }}
14
```

\$\$\$\$\$

\$ \$

\$ \$

\$ \$

\$\$\$\$\$

=== Code Execution Successful ===





Main.java



Share

Run

```
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
```

Output

Clear

Palindrome

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Main.java



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Run

```
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
```

Output

Clear

100

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Main.java



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Run

```
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
```

Output

Clear

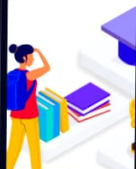
Armstrong

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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

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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 ===

