

1.

```
import java.util.Scanner;

class pgm1_1{

public static void main(String[]args){

Scanner sc=new Scanner(System.in);

int t=sc.nextInt();

for(int i=0;i<t;i++){

    try{

        long x=sc.nextLong();

        System.out.println(x+"can be fitted in:");

        if(x>=-128 && x<=127)

            System.out.println("Byte");

        if(x>=-32768 && x<=32767)

            System.out.println("Short");

        if(x>=-(int)Math.pow(2,31) && x<=(int)Math.pow(2,31))

            System.out.println("Int");

        if(x>=-(long)Math.pow(2,63) && x<=(long)Math.pow(2,63))

            System.out.println("Long");

    }

    catch(Exception e){

        System.out.println("Can't be fitted anywhere.");

    }

}

}

}
```

Output:

```
D:\230701295>java pgm1_1
5
12000
12000can be fitted in:
Short
Int
Long
```

2.

```
import java.util.Scanner;

class pgm1_2{

public static void main(String[]args){

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

double d=n/100.0;

System.out.printf("$.%2f",d);

}

}
```

Output:

```
D:\230701295>javac pgm1_2.java

D:\230701295>java pgm1_2
452
$.4.520000
```

3.

```
import java.util.Scanner;

class pgm1_3{

public static void main(String[]args){

Scanner sc=new Scanner(System.in);

double d=sc.nextDouble();

int n=(int)d;

System.out.println(n);

}

}
```

Output:

```
D:\230701295>javac pgm1_3.java

D:\230701295>java pgm1_3
456.789
456
```

4.

```
import java.util.Scanner;

class pgm1_4{
    public static void main(String[]args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        double d=sc.nextDouble();
        System.out.format("%.2f",((n*d)/100.00)+n);
    }
}
```

Output:

```
D:\230701295>javac pgm1_4.java

D:\230701295>java pgm1_4
45000
7.5
48375.00
```

5.

```
import java.util.Scanner;

class pgm1_5{

public static void main(String[]args){

Scanner sc=new Scanner(System.in);

int num=sc.nextInt();

int temp=num;

int rev=0;

while(num!=0){

    int rem=num%10;

    rev=(rev*10)+rem;

    num=num/10;

}

if(temp==rev){

    System.out.println("The reversed number is"+rev+".It is same as original");

}

else{

    System.out.println("The reversed number is"+rev+".It is not same as original");

}

}

}
```

Output:

```

D:\230701295>javac pgm1_5.java

D:\230701295>java pgm1_5
12321
The reversed number is12321.It is same as original

D:\230701295>javac pgm1_5.java

D:\230701295>java pgm1_5
1234
The reversed number is4321.It is not same as original

```

6.

```

import java.util.Scanner;

public class pgm1_6 {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        int n = sc.nextInt();

        for (int i = 1; i <= n; i++)

        {

            for (int j = i; j < n; j++)

                System.out.print(" ");

            for (int k = 1; k <= (2 * i - 1); k++)

                System.out.print("*");

            System.out.println();

        }

        for (int i = n - 1; i >= 1; i--) {

            for (int j = n; j > i; j--)

                System.out.print(" ");

            for (int k = 1; k <= (2 * i - 1); k++)

                System.out.print("*");

            System.out.println();

        }

    }

}

```

output:

```
PS C:\Users\ramyr> & 'C:\Users\ramyr\
\ramyr\AppData\Local\Temp\vscodesws_06
3
  *
 ***
*****
 ***
  *
PS C:\Users\ramyr>
```

7.

```
import java.util.Scanner;

public class pgm1_7 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        int n = sc.nextInt();

        sc.close();

        int[][] p = new int[n][];
        for (int i = 0; i < n; i++) {
            p[i] = new int[i + 1];

            p[i][0] = 1;

            p[i][i] = 1;

            for (int j = 1; j < i; j++) {
                p[i][j] = p[i - 1][j - 1] + p[i - 1][j];
            }
        }

        for (int i = 0; i < n; i++) {
            int spaces = (n - i - 1);

            for (int j = 0; j < spaces; j++) {
                System.out.print(" ");
            }

            for (int j = 0; j <= i; j++) {
```

```

        System.out.print(p[i][j] + " ");
    }
    System.out.println();
}
for (int i = n - 2; i >= 0; i--) {
    int spaces = (n - i - 1);
    for (int j = 0; j < spaces; j++) {
        System.out.print(" ");
    }
    for (int j = 0; j <= i; j++) {
        System.out.print(p[i][j] + " ");
    }
    System.out.println();
}
}
}

```

output:

```

4
  1
 1 1
1 2 1
1 3 3 1
 1 2 1
   1 1
    1

=== Code Execution Successful ===

```

8.

```
import java.util.*;

public class pgm1_8
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        int q = sc.nextInt();
        while(q>0)
        {
            int a = sc.nextInt();
            int b = sc.nextInt();
            int n = sc.nextInt();
            int d = 0;
            while(d<=n)
            {
                int sum = a;
                for(int i=0; i<d; i++)
                    sum += Math.pow(2, i)*b;
                System.out.print(sum + " ");
                d++;
            }
            q--;
        }
    }
}
```

output:



2

0 2 10

0 2 6 14 30 62 126 254 510 1022 2046

=== Session Ended. Please Run the code again ===