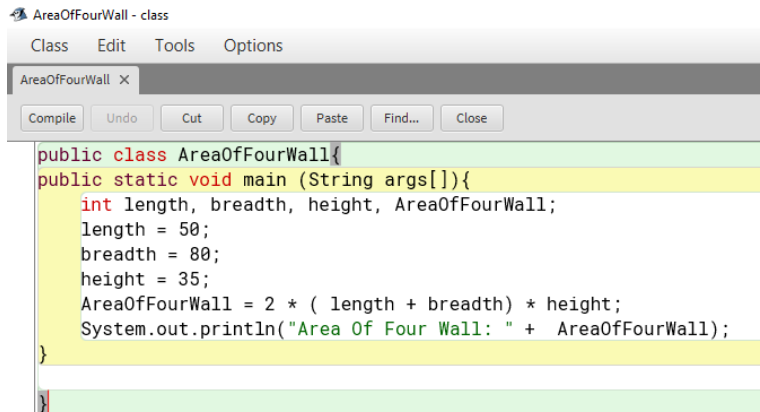


1) Write a program to display the area of 4 walls.

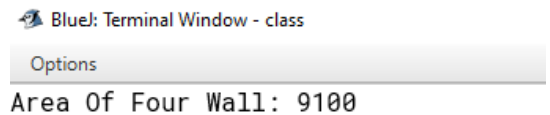
Pseudo code:

- Input length(L), breadth(B) and height(H) of the wall.
- Area of four wall (A) = $2H(L+B)$
- Print area of four walls is: A

Code and Output in Java:



```
AreaOfFourWall - class
Class Edit Tools Options
AreaOfFourWall x
Compile Undo Cut Copy Paste Find... Close
public class AreaOfFourWall{
public static void main (String args[]){
    int length, breadth, height, AreaOfFourWall;
    length = 50;
    breadth = 80;
    height = 35;
    AreaOfFourWall = 2 * ( length + breadth) * height;
    System.out.println("Area Of Four Wall: " + AreaOfFourWall);
}
}
```



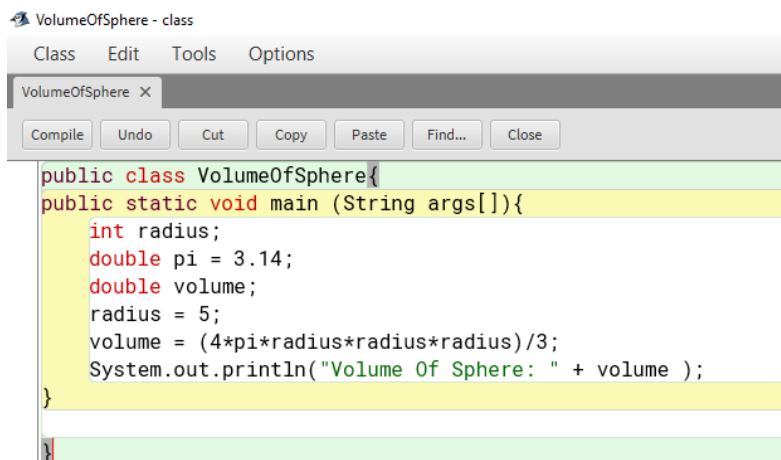
```
BlueJ: Terminal Window - class
Options
Area Of Four Wall: 9100
```

2) Write a program to display volume of sphere.

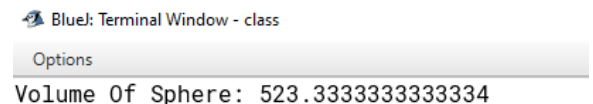
Pseudo code:

- Input radius(r) and pi = 3.14
- Volume = $\frac{4}{3} \pi r^3$
- Print volume

Code and Output in Java:



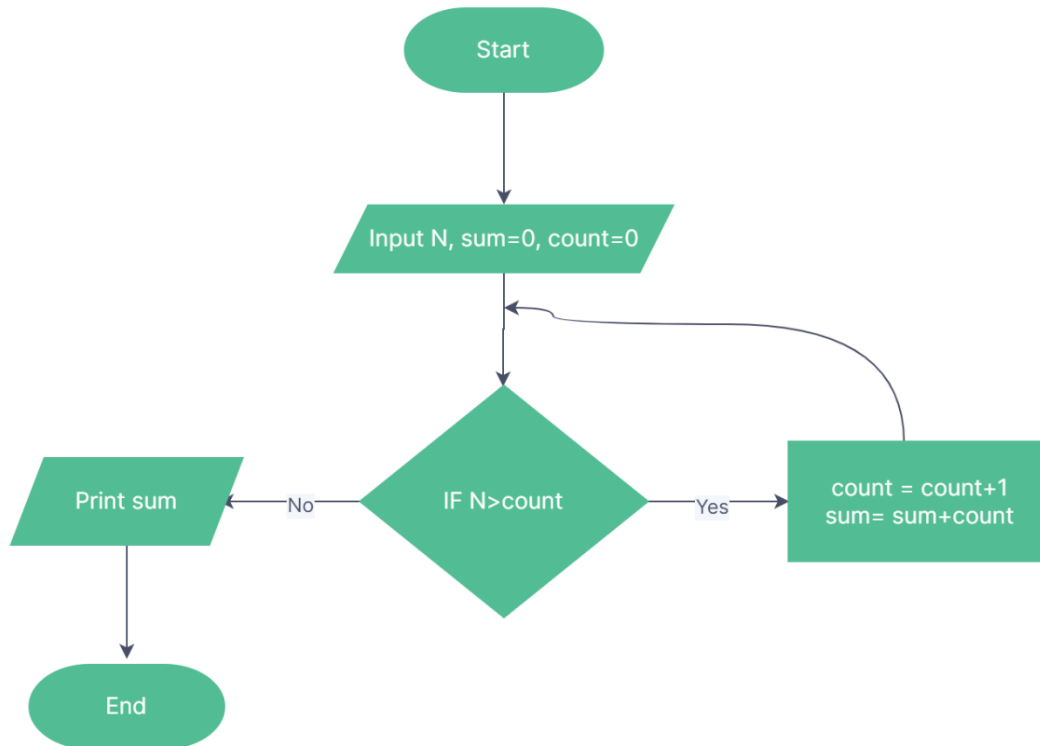
```
VolumeOfSphere - class
Class Edit Tools Options
VolumeOfSphere x
Compile Undo Cut Copy Paste Find... Close
public class VolumeOfSphere{
public static void main (String args[]){
    int radius;
    double pi = 3.14;
    double volume;
    radius = 5;
    volume = (4*pi*radius*radius*radius)/3;
    System.out.println("Volume Of Sphere: " + volume );
}
}
```



```
BlueJ: Terminal Window - class
Options
Volume Of Sphere: 523.3333333333334
```

3) Write a program to ask for n number and print the sum of first n natural numbers.

Flowchart:



Code and Output in Java:

```
Sum - class
Class Edit Tools Options
Sum X
Compile Undo Cut Copy Paste Find... Close

import java.util.Scanner;
public class Sum{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the nth natural number:");
    int number = sc.nextInt();
    int count = 0, sum = 0;
    while (count<number){
        count = count + 1;
        sum = sum + count;
    }
    System.out.println("The sum of 1st "+ number +" Natural number is: " + sum);
}
}
```

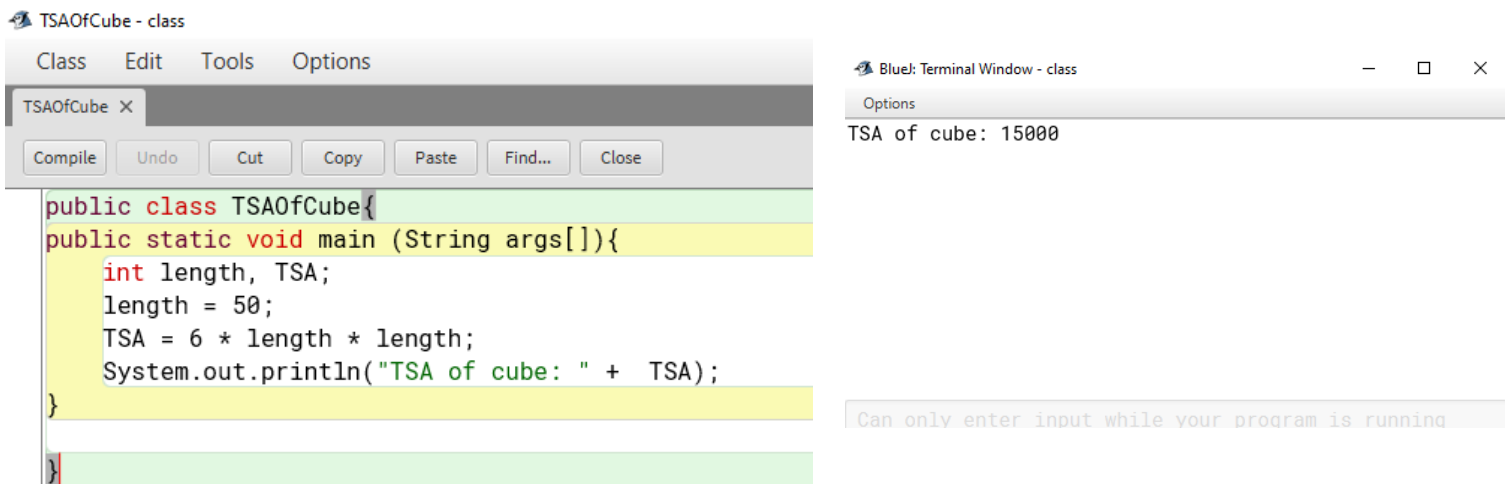
```
BlueJ: Terminal Window - class
Options
Enter the nth natural number:
10
The sum of 1st 10 Natural number is: 55
```

4) Write a program to display the total surface area of cube.

Pseudo code:

- Input the length of each side of a cube "l"
- Total surface area (TSA) of cube = $6l^2$
- Print TSA

Code and Output in Java:



The screenshot shows a Java IDE with two windows. The left window, titled 'TSAOfCube - class', contains the following Java code:

```
public class TSAOfCube{  
    public static void main (String args[]){  
        int length, TSA;  
        length = 50;  
        TSA = 6 * length * length;  
        System.out.println("TSA of cube: " + TSA);  
    }  
}
```

The right window, titled 'BlueJ: Terminal Window - class', shows the output of the program:

```
TSA of cube: 15000
```

Below the terminal window, a message states: 'Can only enter input while your program is running'.

5) Write a program to display the area of triangle when 3 sides are given.

Pseudo code:

- Input three sides: S1, S2 AND S3.
- Semi-Perimeter (S) = $(S1+S2+S3)/3$
- Area(A) = $\sqrt{S(S-S1)(S-S2)(S-S3)}$
- Print Area

Code and Output in Java:



The screenshot shows a Java IDE with a file named 'AreaOfTriangle - class'. The code defines a public class 'AreaOfTriangle' with a static main method. It calculates the area of a triangle with sides 3, 4, and 5 using Heron's formula. The output in the terminal window is 'Area of Triangle: 6.0'.

```
public class AreaOfTriangle{  
    public static void main (String args[]){  
        int side1, side2, side3;  
        double semiPerimeter, Area;  
        side1 = 3; side2 = 4; side3 = 5;  
        semiPerimeter = (side1+side2+side3)/2;  
        Area = (semiPerimeter*(semiPerimeter-side1)*(semiPerimeter-side2)*(semiPerimeter-side3));  
        System.out.println("Area of Triangle: " + Math.sqrt(Area));  
    }  
}
```

Area of Triangle: 6.0

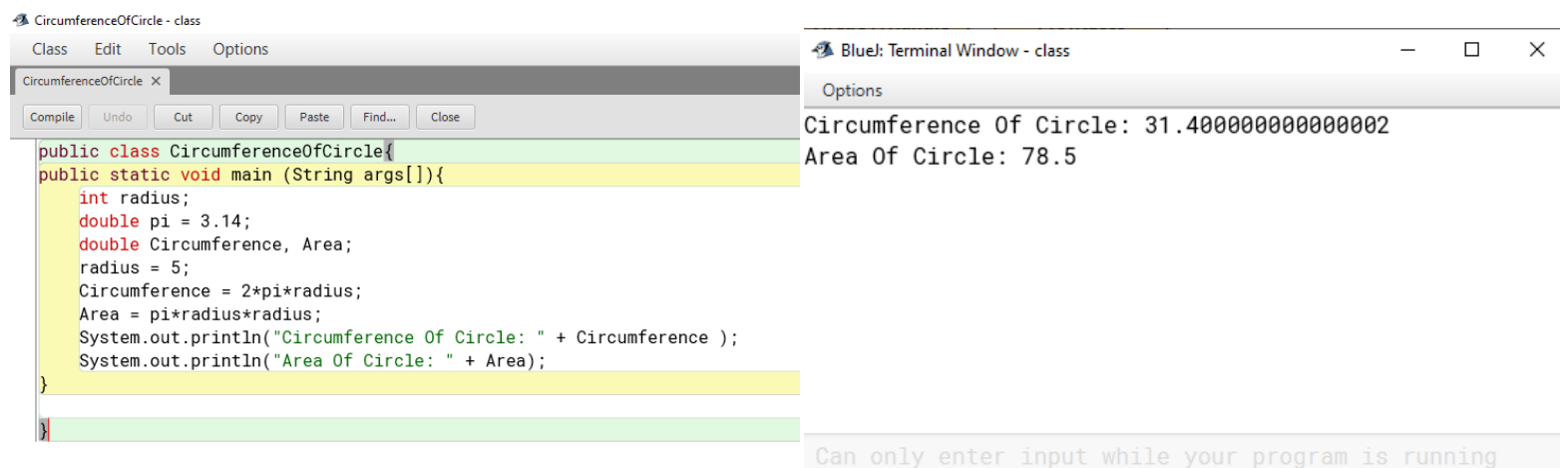
Can only enter input while your program is running

6) Write a program to display area and circumference of circle.

Pseudo code:

- Input Radius(R) and $\pi=3.14$
- $\text{Area} = \pi \cdot R^2$ and $\text{circumference} = 2 \cdot \pi \cdot R$
- Print Area and Circumference

Code and Output in Java:



The screenshot shows a Java IDE with a file named 'CircumferenceOfCircle - class'. The code defines a public class 'CircumferenceOfCircle' with a static main method. It calculates the circumference and area of a circle with radius 5. The output in the terminal window is 'Circumference Of Circle: 31.400000000000002' and 'Area Of Circle: 78.5'.

```
public class CircumferenceOfCircle{  
    public static void main (String args[]){  
        int radius;  
        double pi = 3.14;  
        double Circumference, Area;  
        radius = 5;  
        Circumference = 2*pi*radius;  
        Area = pi*radius*radius;  
        System.out.println("Circumference Of Circle: " + Circumference );  
        System.out.println("Area Of Circle: " + Area);  
    }  
}
```

Circumference Of Circle: 31.400000000000002
Area Of Circle: 78.5

Can only enter input while your program is running

7) Write a program to ask distance in kilometer and convert into miles.

Pseudo code:

- Input distance in Kilometer (D).

- Distance in miles (MILES) = $D \times 1.6$
- Print MILES

Code and Output in Java:

Distance - class
Class Edit Tools Options
Distance x
Compile Undo Cut Copy Paste Find... Close

```

import java.util.Scanner;
public class Distance{
    public static void main (String args[]){
        Scanner ds = new Scanner (System.in);
        System.out.print("Enter distance in KiloMeter: ");
        double KM = ds.nextDouble();
        double Mile = 1.6*KM;
        System.out.println("Distance in Miles: " + Mile + "Miles");
    }
}

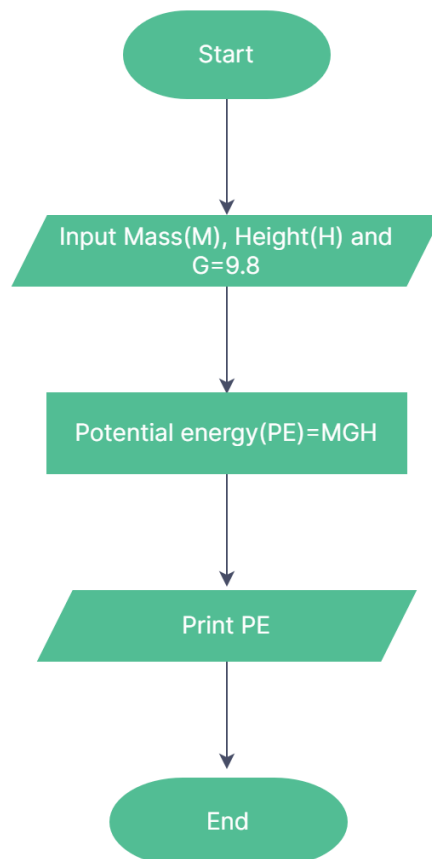
```

BlueJ: Terminal Window - class
Options
Enter distance in KiloMeter: 1755
Distance in Miles: 2808.0Miles

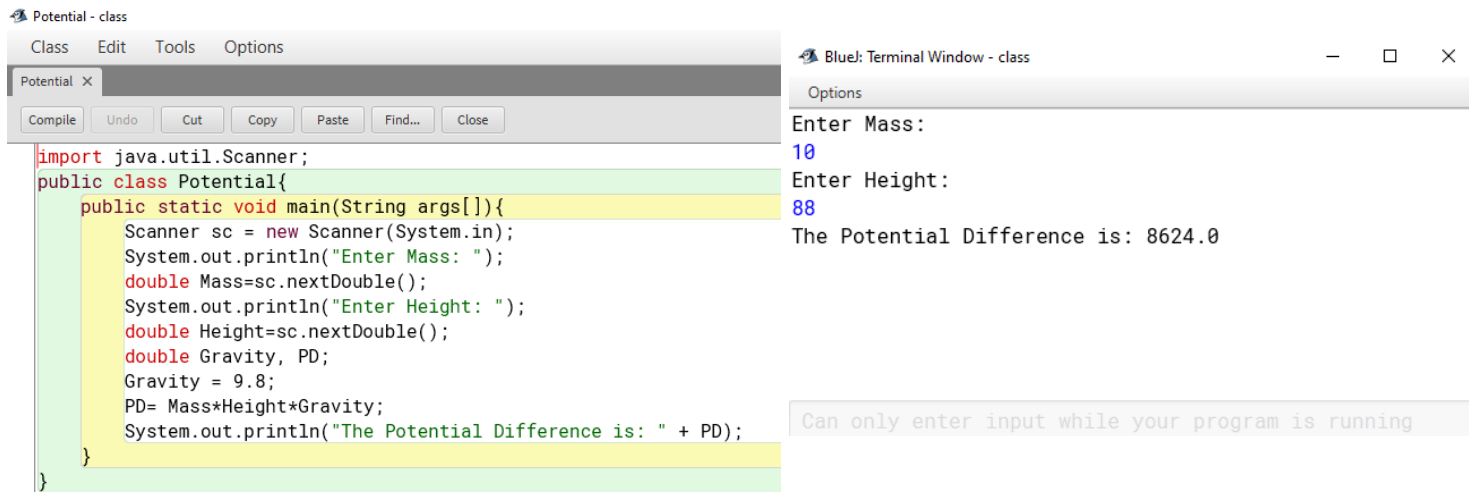
Can only enter input while your program is running

8) Write a program to calculate potential energy of body. [PE=MGH where G=9.8]

Flowchart:



Code and Output in Java:



```
import java.util.Scanner;
public class Potential{
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Mass: ");
        double Mass=sc.nextDouble();
        System.out.println("Enter Height: ");
        double Height=sc.nextDouble();
        double Gravity, PD;
        Gravity = 9.8;
        PD= Mass*Height*Gravity;
        System.out.println("The Potential Difference is: " + PD);
    }
}
```

Enter Mass:
10
Enter Height:
88
The Potential Difference is: 8624.0

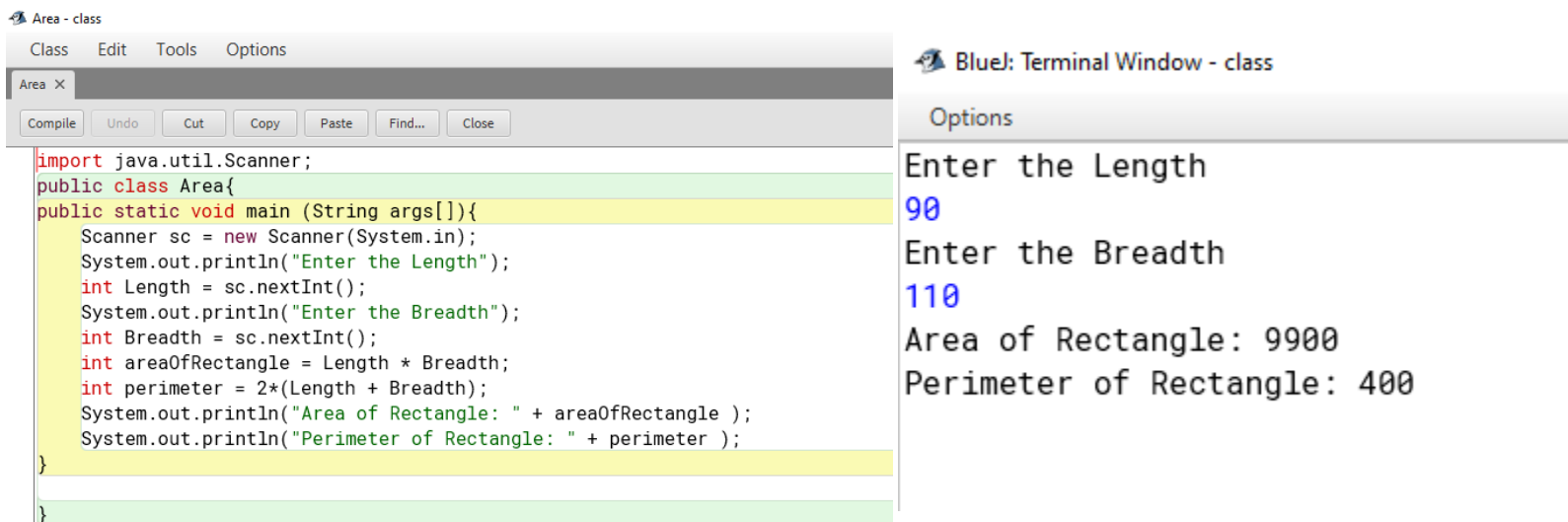
Can only enter input while your program is running

9) Write a program to display area and perimeter of rectangle.

Pseudo code:

- Input length(L) and breadth(B).
- Area (A) = Length*Breadth
- Perimeter(p)= 2(length+breadth)
- Print Area and Perimeter

Code and Output in Java:



```
import java.util.Scanner;
public class Area{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the Length");
        int Length = sc.nextInt();
        System.out.println("Enter the Breadth");
        int Breadth = sc.nextInt();
        int areaOfRectangle = Length * Breadth;
        int perimeter = 2*(Length + Breadth);
        System.out.println("Area of Rectangle: " + areaOfRectangle );
        System.out.println("Perimeter of Rectangle: " + perimeter );
    }
}
```

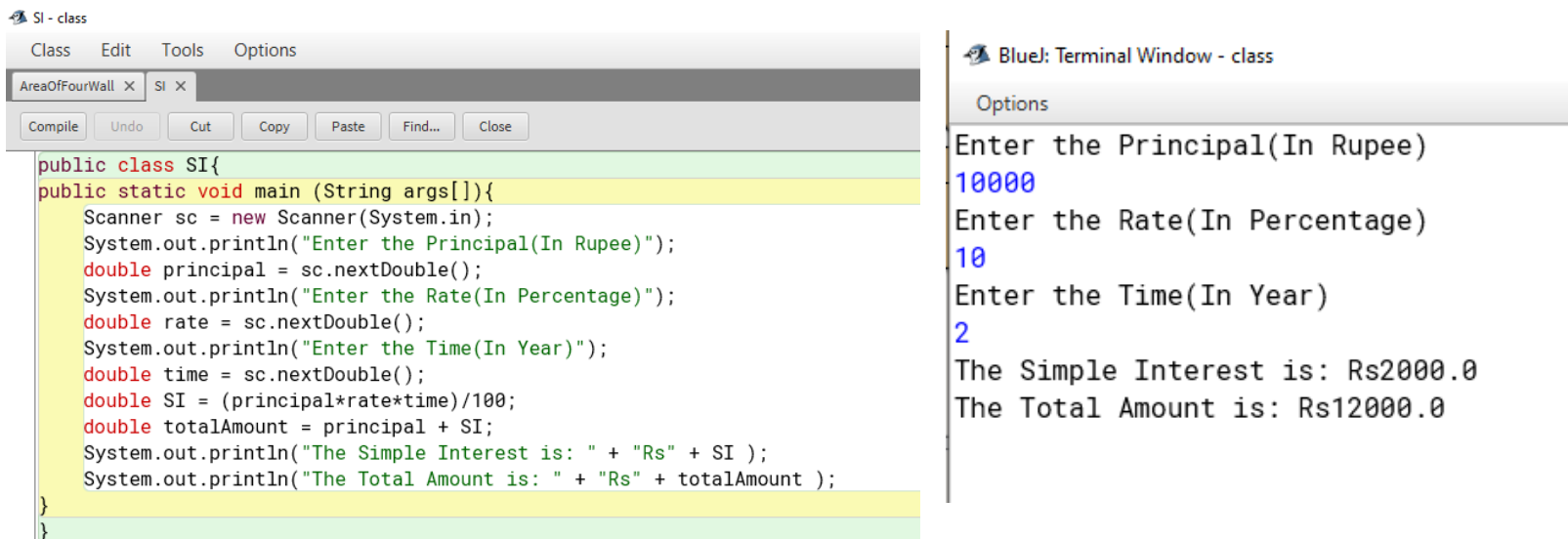
Enter the Length
90
Enter the Breadth
110
Area of Rectangle: 9900
Perimeter of Rectangle: 400

10) Write a program to input principal, rate, time and display simple interest and total amount.

Pseudo code:

- Input Principal in rupees(p), rate in percent(r) and time in year(t)
- Simple interest(I)=(p*t*r)/100
- Total amount(a)= principal + simple interest
- Print simple interest and total amount

Code and Output in Java:



The screenshot displays a Java IDE with two windows. The left window, titled 'SI - class', contains the following Java code:

```
public class SI{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the Principal(In Rupee)");
        double principal = sc.nextDouble();
        System.out.println("Enter the Rate(In Percentage)");
        double rate = sc.nextDouble();
        System.out.println("Enter the Time(In Year)");
        double time = sc.nextDouble();
        double SI = (principal*rate*time)/100;
        double totalAmount = principal + SI;
        System.out.println("The Simple Interest is: " + "Rs" + SI );
        System.out.println("The Total Amount is: " + "Rs" + totalAmount );
    }
}
```

The right window, titled 'BlueJ: Terminal Window - class', shows the program's execution with the following input and output:

```
Enter the Principal(In Rupee)
10000
Enter the Rate(In Percentage)
10
Enter the Time(In Year)
2
The Simple Interest is: Rs2000.0
The Total Amount is: Rs12000.0
```

11) Write a program to display total surface area and volume of cuboid.

Pseudo code:

- Input length, width and height of cuboid
- $TSA = 2 * (length * width + width * height + length * height)$
- $volume = length * width * height$
- Print TSA and volume

Code and Output in Java:

TSAAndVolume - class

Class Edit Tools Options

TSAAndVolume X

Compile Undo Cut Copy Paste Find... Close

```
public class TSAAndVolume{  
public static void main (String args[]){  
    int length, width, height, TSA, volume;  
    length = 50;  
    width = 80;  
    height = 35;  
    TSA = 2 * ( length * width + width * height + length * height );  
    volume = length * width * height;  
    System.out.println("TSA of cuboid: " + TSA);  
    System.out.println("Volume of cuboid: " + volume);  
}  
}
```

BlueJ: Terminal Window - class

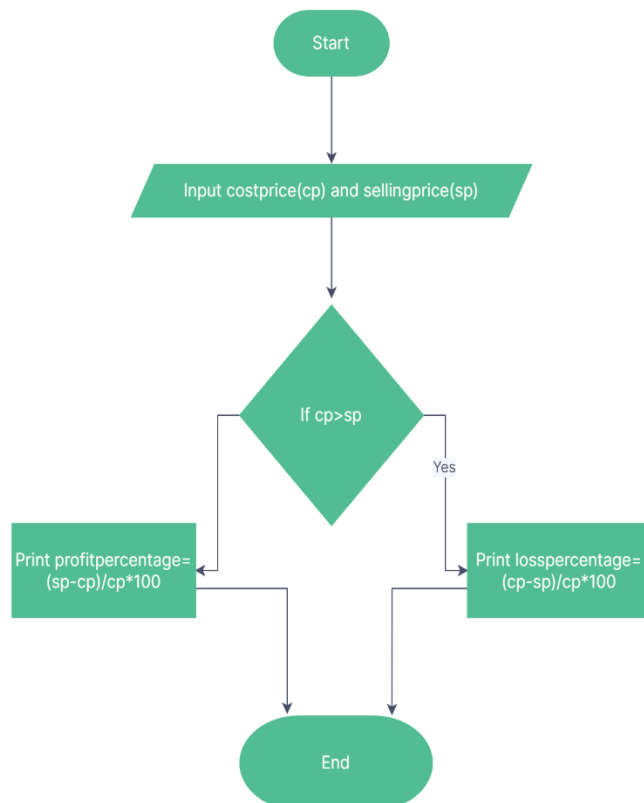
Options

TSA of cuboid: 17100
Volume of cuboid: 140000

Can only enter input while your program is running

12) Write a program to input selling price and cost price calculate profit or loss percentage.

Flowchart:



Code and Output in Java:

ProfitLoss - class

Class Edit Tools Options

ProfitLoss X

Compile Undo Cut Copy Paste Find... Close

```
import java.util.Scanner;
public class ProfitLoss{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the Selling Price");
    double sP = sc.nextDouble();
    System.out.println("Enter the Cost Price");
    double cP = sc.nextDouble();
    double profitp, lossP;
    profitp = (sP-cP)/cP*100;
    lossP =(cP-sP)/cP*100;
    if (sP>cP){
        System.out.println("The Profit Percentage is " + profitp + "%");
    } else if (cP>sP) {
        System.out.println("The Loss Percentage is " + lossP + "%");
    } else {
        System.out.println("Neither Profit nor Loss");
    }
}
}
```

Blue: Terminal Window - class

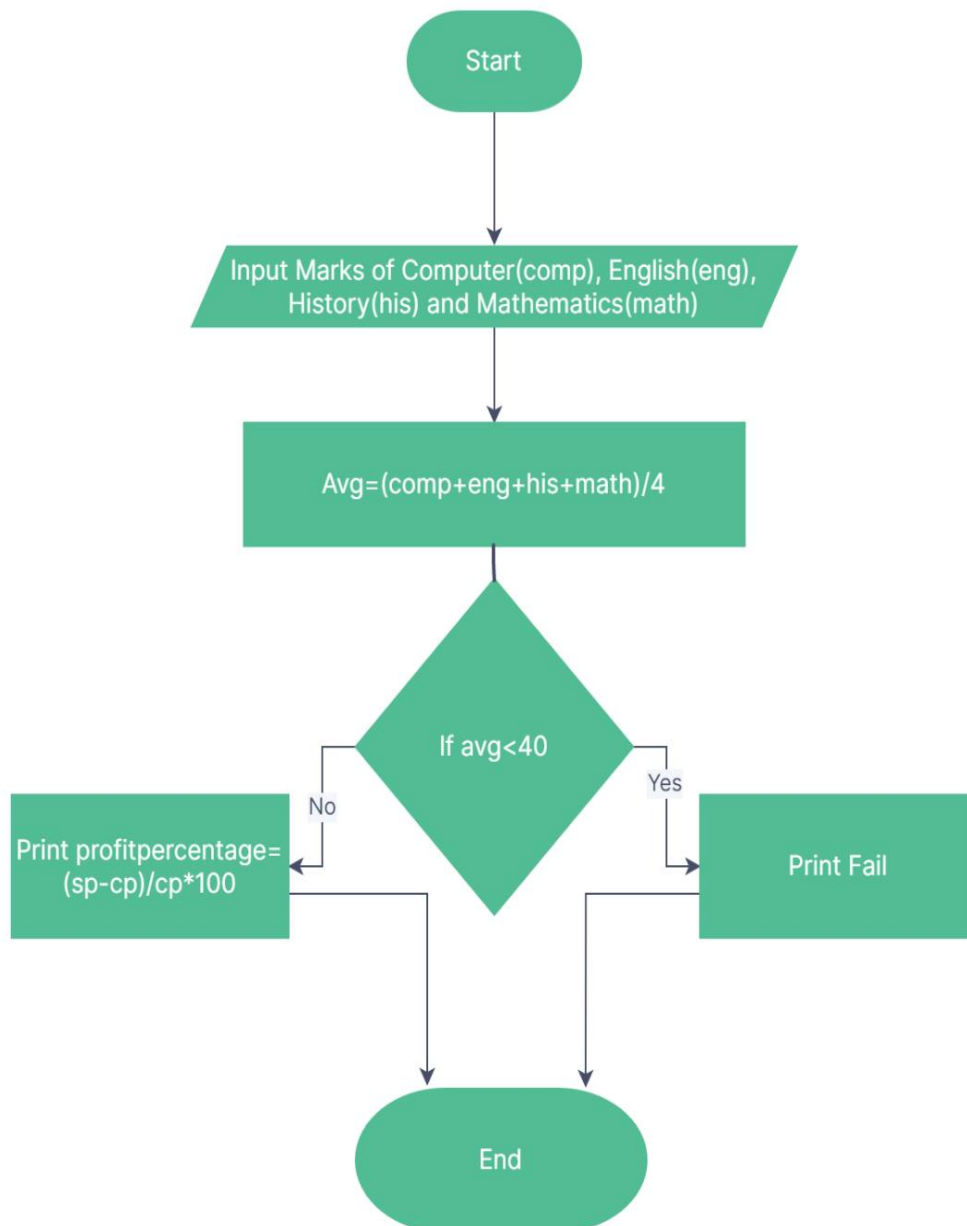
Options

Enter the Selling Price
10000
Enter the Cost Price
12000
The Loss Percentage is 16.666666666666664%

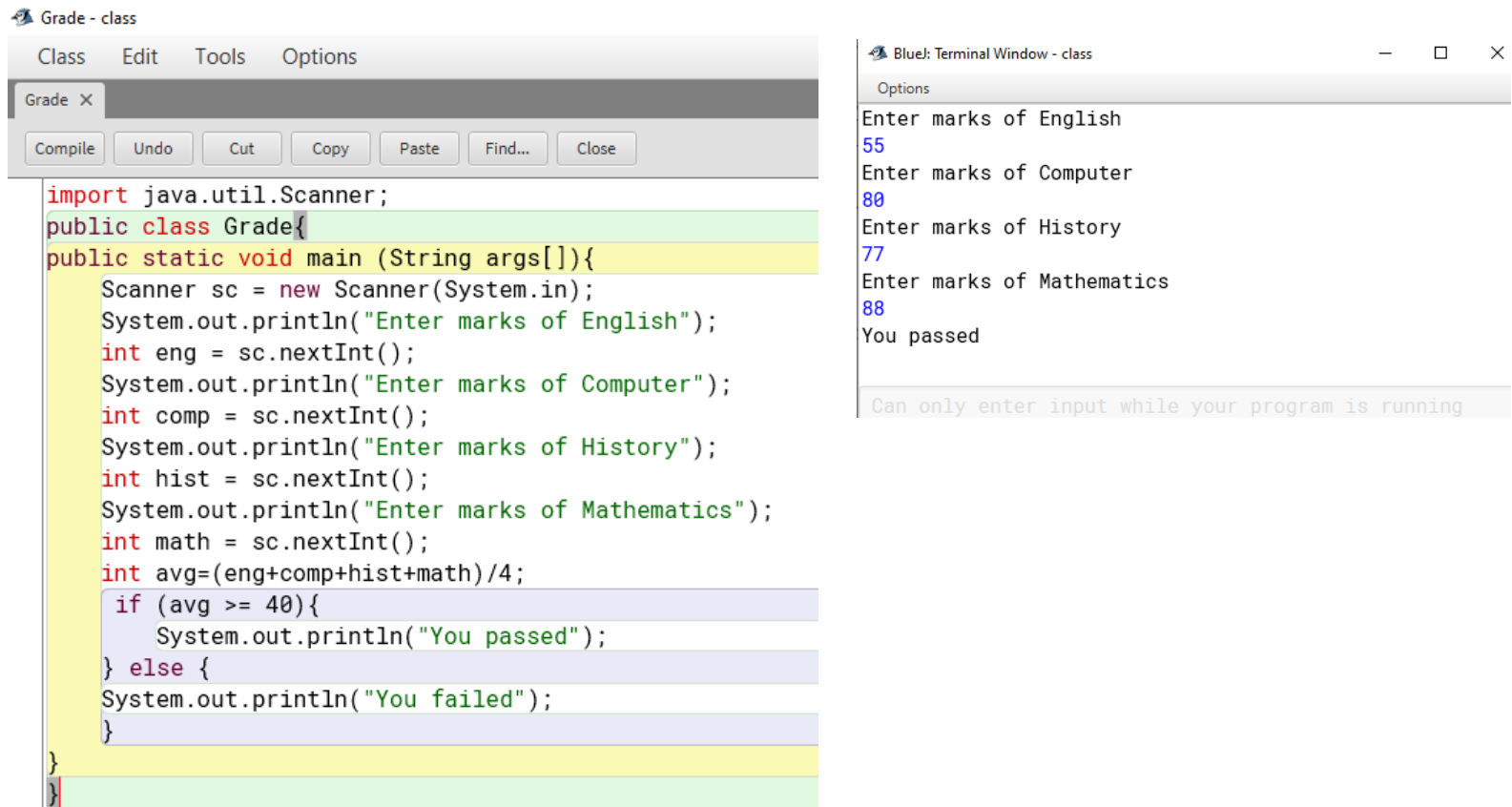
Can only enter input while your program is running

13) Write a program to ask the user to enter the marks in any four subjects and display whether the user has passed or failed.

Flowchart:



Code and Output in Java:



The screenshot displays a Java IDE with two windows. The left window, titled 'Grade - class', shows the source code for a program that calculates the average of marks in English, Computer, History, and Mathematics. The code uses a Scanner to take input and an if statement to check if the average is greater than or equal to 40. The right window, titled 'BlueJ: Terminal Window - class', shows the program's execution. It prompts the user to enter marks for each subject, receives inputs of 55, 80, 77, and 88, and outputs 'You passed'.

```
import java.util.Scanner;

public class Grade{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter marks of English");
        int eng = sc.nextInt();
        System.out.println("Enter marks of Computer");
        int comp = sc.nextInt();
        System.out.println("Enter marks of History");
        int hist = sc.nextInt();
        System.out.println("Enter marks of Mathematics");
        int math = sc.nextInt();
        int avg=(eng+comp+hist+math)/4;
        if (avg >= 40){
            System.out.println("You passed");
        } else {
            System.out.println("You failed");
        }
    }
}
```

Enter marks of English
55
Enter marks of Computer
80
Enter marks of History
77
Enter marks of Mathematics
88
You passed

Can only enter input while your program is running

14) Write a program to display TSA and volume of hemisphere.

Pseudo code:

- Input radius(r) of hemisphere and $\pi=3.14$
- Total Surface Area(tsa)= $3\pi r^2$ and volume(v)= $\frac{2}{3}\pi r^3$
- Print tsa and v

Code and output in Java:

The screenshot shows a Java IDE with a file named 'Hemis - class'. The code defines a class 'Hemis' with a 'main' method that takes an array of strings 'args'. It uses a 'Scanner' to read an integer 'Radius' from the user. It then calculates the Total Surface Area (TSA) and Volume of a hemisphere. The TSA is calculated as $3\pi R^2$ and the Volume as $\frac{2\pi R^3}{3}$. The results are printed to the console. The terminal window shows the prompt 'Enter the Radius', the input '42', and the output: 'The TSA of Hemisphere is : 16616.88' and 'The Volume of Hemisphere is : 155090.88'.

```
import java.util.Scanner;

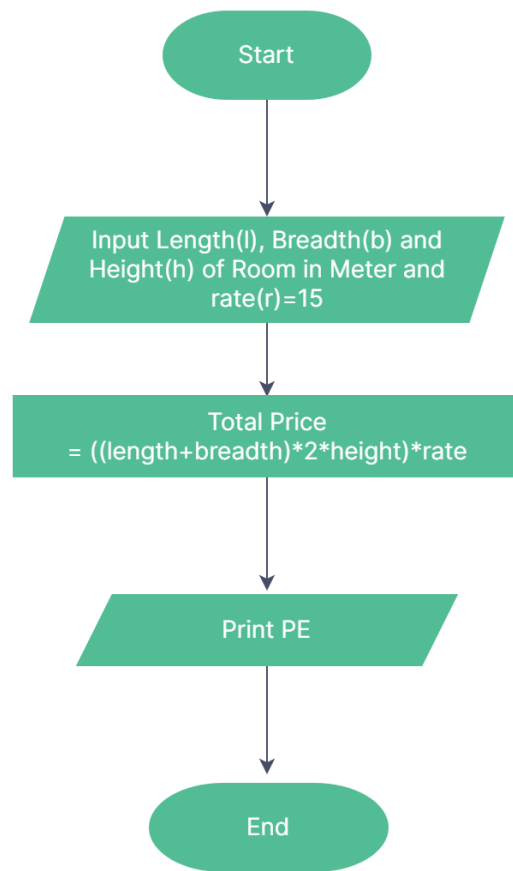
public class Hemis{
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the Radius");
        int Radius = sc.nextInt();
        double pi, Volume, TSA;
        pi=3.14;
        TSA=3*pi*Radius*Radius;
        Volume=(2*pi*Radius*Radius*Radius)/3;
        System.out.println("The TSA of Hemisphere is : " + TSA);
        System.out.println("The Volume of Hemisphere is : " + Volume);
    }
}
```

Enter the Radius
42
The TSA of Hemisphere is : 16616.88
The Volume of Hemisphere is : 155090.88

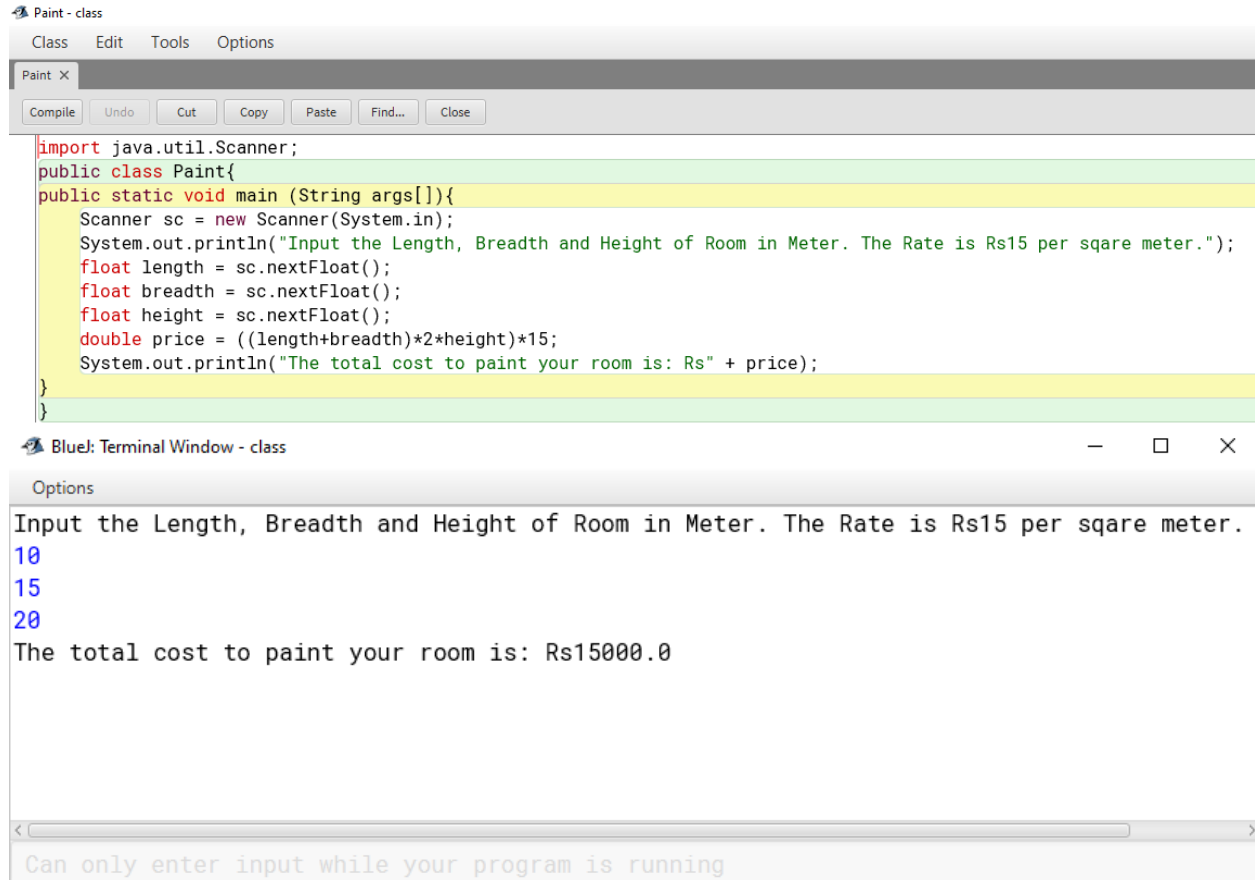
Can only enter input while your program is running

15) Write a program to display the cost of painting the four walls of a room.

Flowchart:



Code and Output in Java:



```
Paint - class
Class Edit Tools Options
Paint X
Compile Undo Cut Copy Paste Find... Close

import java.util.Scanner;
public class Paint{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Input the Length, Breadth and Height of Room in Meter. The Rate is Rs15 per sqare meter.");
    float length = sc.nextFloat();
    float breadth = sc.nextFloat();
    float height = sc.nextFloat();
    double price = ((length+breadth)*2*height)*15;
    System.out.println("The total cost to paint your room is: Rs" + price);
}
}

Blue: Terminal Window - class
Options
Input the Length, Breadth and Height of Room in Meter. The Rate is Rs15 per sqare meter.
10
15
20
The total cost to paint your room is: Rs15000.0

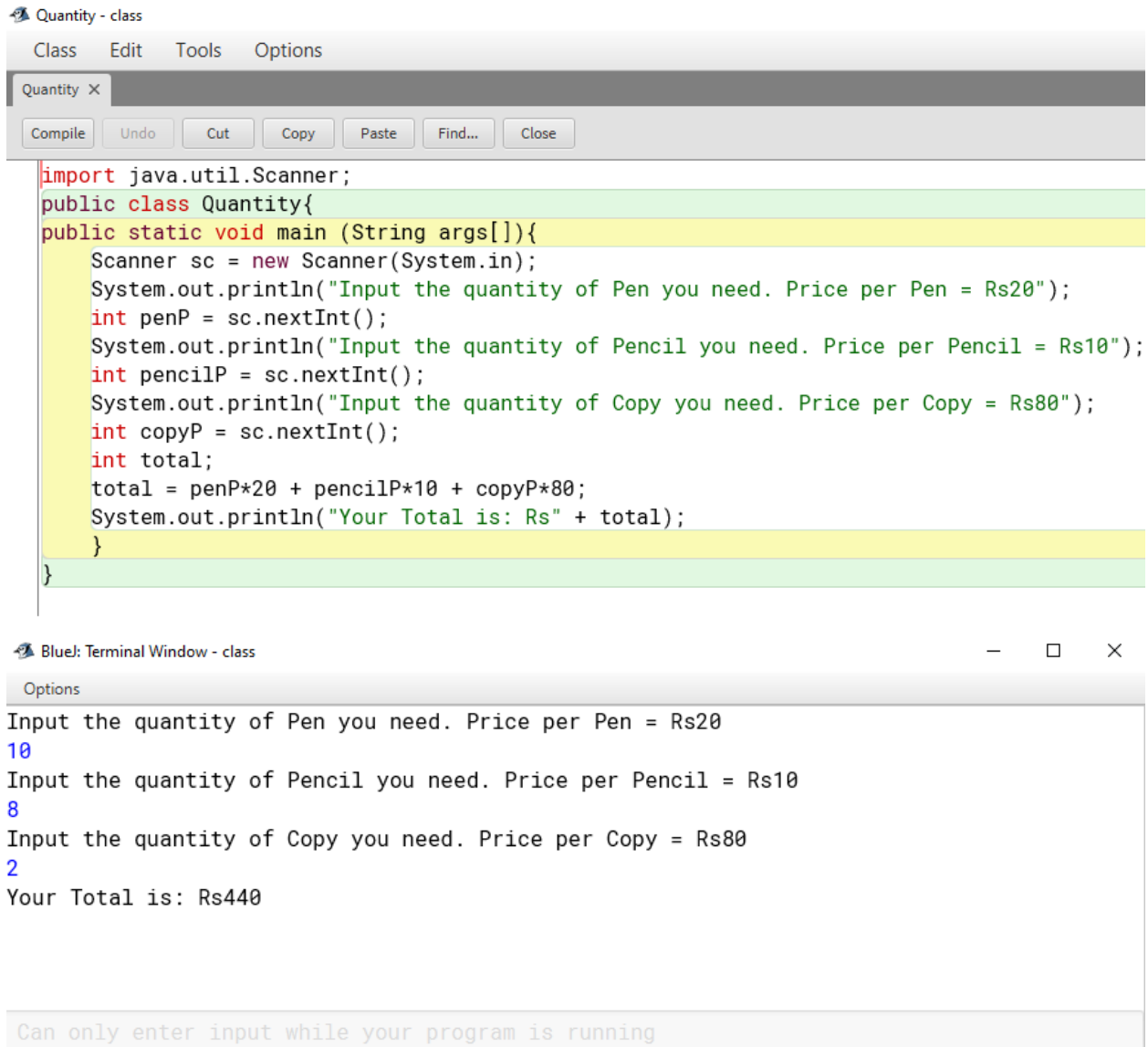
Can only enter input while your program is running
```

16) Write a program to ask quantity of pen, copy and pencil and their rate and find out the total amount.

Pseudo code:

- Input the rate of pen(r_1), copy(r_2) and pencil(r_3).
- Input the quantity you need of pen(q_1), copy(q_2) and paper(q_3).
- $\text{Total} = q_1 * r_1 + q_2 * r_2 + q_3 * r_3$
- Print the total is "Total"

Code and Output in Java:



The image shows a Java IDE window titled "Quantity - class". The window has a menu bar with "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main area displays the following Java code:

```
import java.util.Scanner;
public class Quantity{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Input the quantity of Pen you need. Price per Pen = Rs20");
        int penP = sc.nextInt();
        System.out.println("Input the quantity of Pencil you need. Price per Pencil = Rs10");
        int pencilP = sc.nextInt();
        System.out.println("Input the quantity of Copy you need. Price per Copy = Rs80");
        int copyP = sc.nextInt();
        int total;
        total = penP*20 + pencilP*10 + copyP*80;
        System.out.println("Your Total is: Rs" + total);
    }
}
```

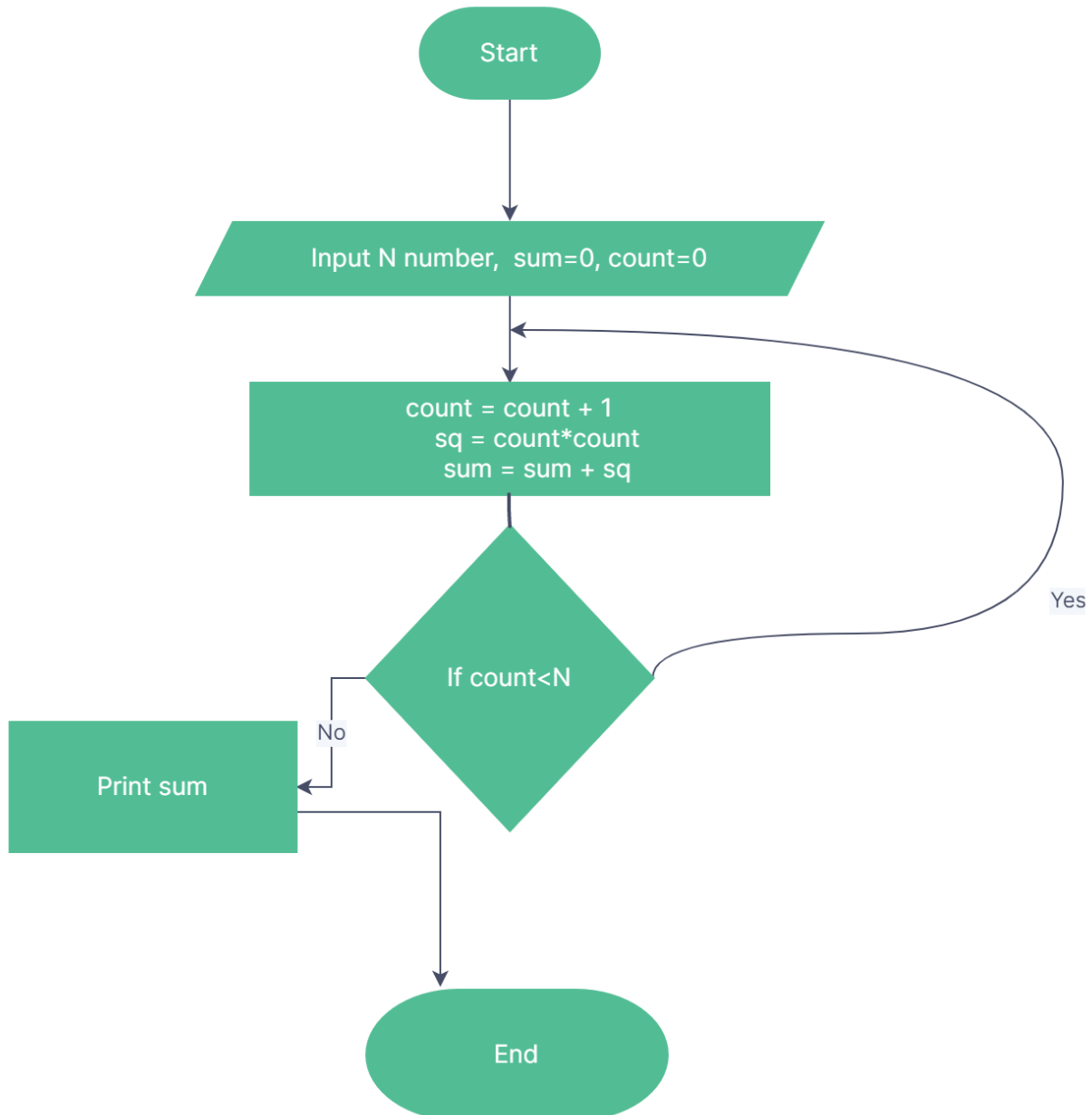
Below the code editor is a terminal window titled "Blue: Terminal Window - class". The terminal shows the output of the program:

```
Input the quantity of Pen you need. Price per Pen = Rs20
10
Input the quantity of Pencil you need. Price per Pencil = Rs10
8
Input the quantity of Copy you need. Price per Copy = Rs80
2
Your Total is: Rs440
```

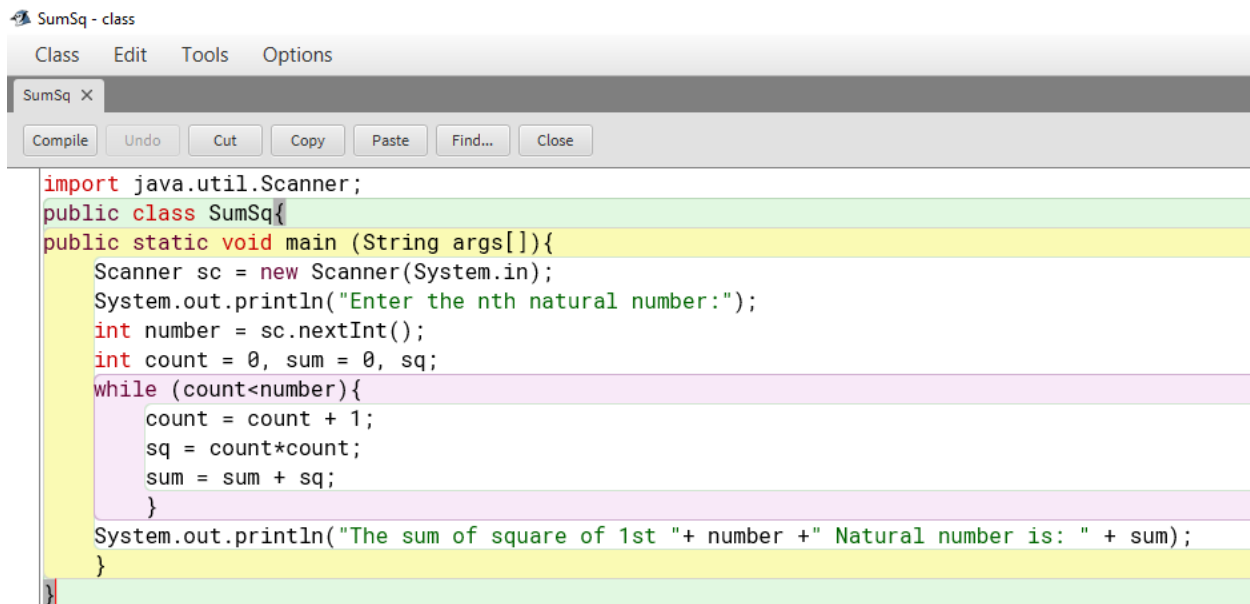
At the bottom of the terminal window, there is a message: "Can only enter input while your program is running".

17) Write a program to ask n number and print the sum of square of first n natural numbers.

Flowchart:



Code and Output in Java:



The screenshot shows a Java IDE window titled "SumSq - class". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar contains buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The code editor displays the following Java code:

```
import java.util.Scanner;
public class SumSq{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the nth natural number:");
        int number = sc.nextInt();
        int count = 0, sum = 0, sq;
        while (count<number){
            count = count + 1;
            sq = count*count;
            sum = sum + sq;
        }
        System.out.println("The sum of square of 1st "+ number +" Natural number is: " + sum);
    }
}
```

BlueJ: Terminal Window - class

Options

Enter the nth natural number:

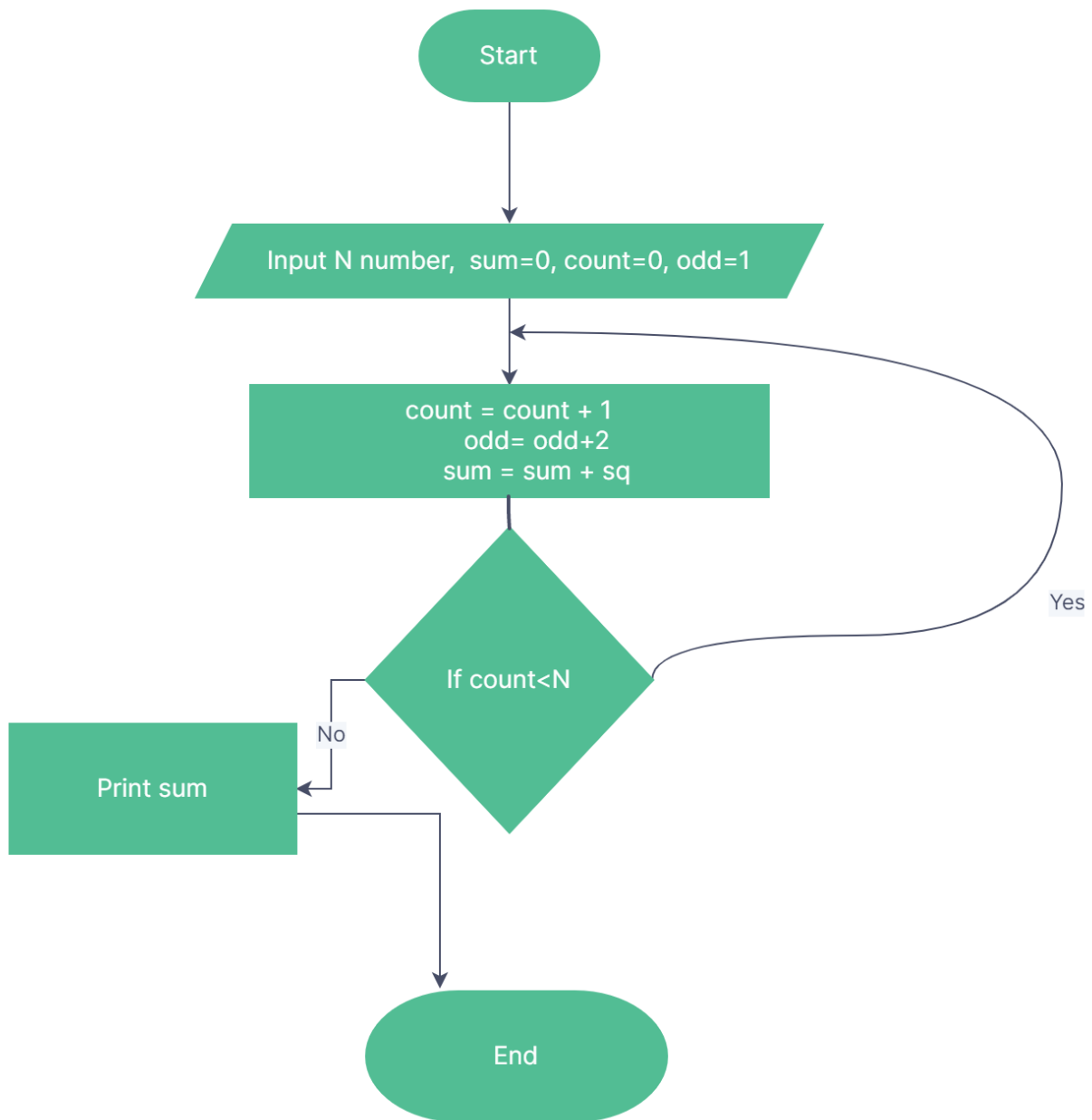
8

The sum of square of 1st 8 Natural number is: 204

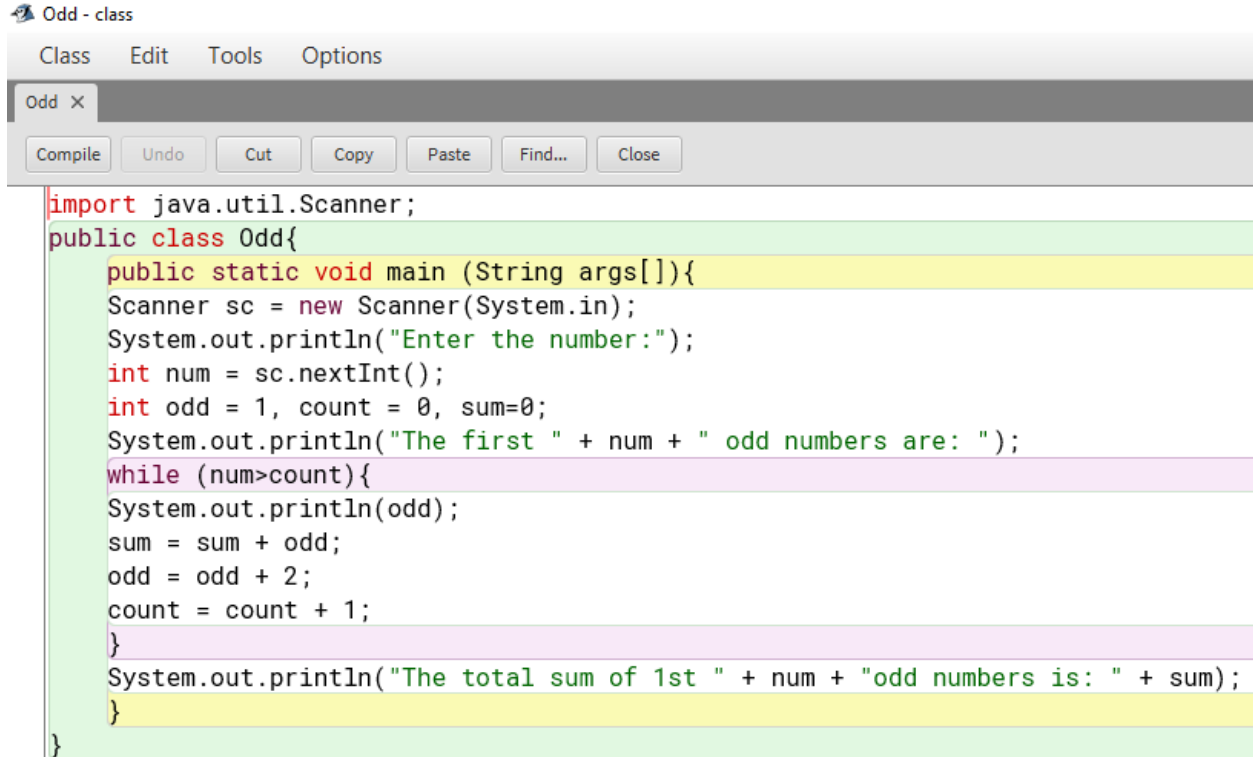
Can only enter input while your program is running

18) Write a program to display the sum of 1st n odd numbers.

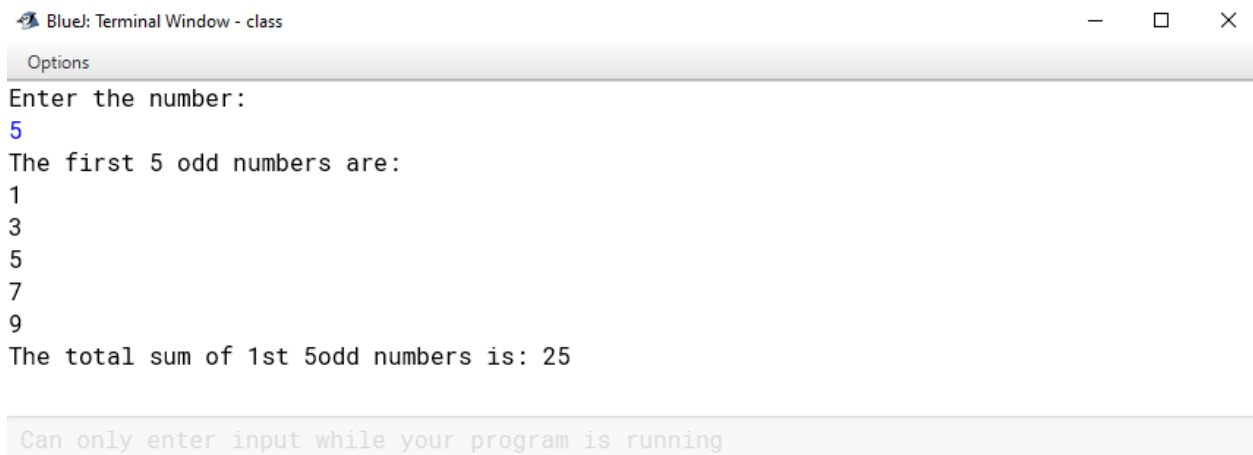
Flowchart:



Code and Output in Java:



```
import java.util.Scanner;
public class Odd{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number:");
        int num = sc.nextInt();
        int odd = 1, count = 0, sum=0;
        System.out.println("The first " + num + " odd numbers are: ");
        while (num>count){
            System.out.println(odd);
            sum = sum + odd;
            odd = odd + 2;
            count = count + 1;
        }
        System.out.println("The total sum of 1st " + num + "odd numbers is: " + sum);
    }
}
```



```
Blue: Terminal Window - class
Options
Enter the number:
5
The first 5 odd numbers are:
1
3
5
7
9
The total sum of 1st 5odd numbers is: 25

Can only enter input while your program is running
```