

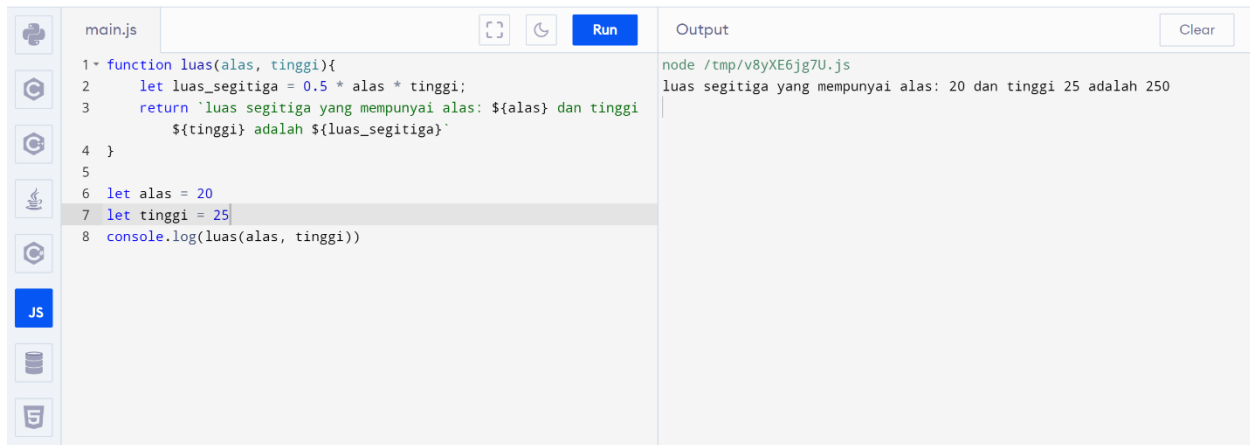
## Tugas Introduction Basic Programming

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Instruktur/Pengajar – Trino Hutasoit

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### 1. Menghitung Luas Segitiga

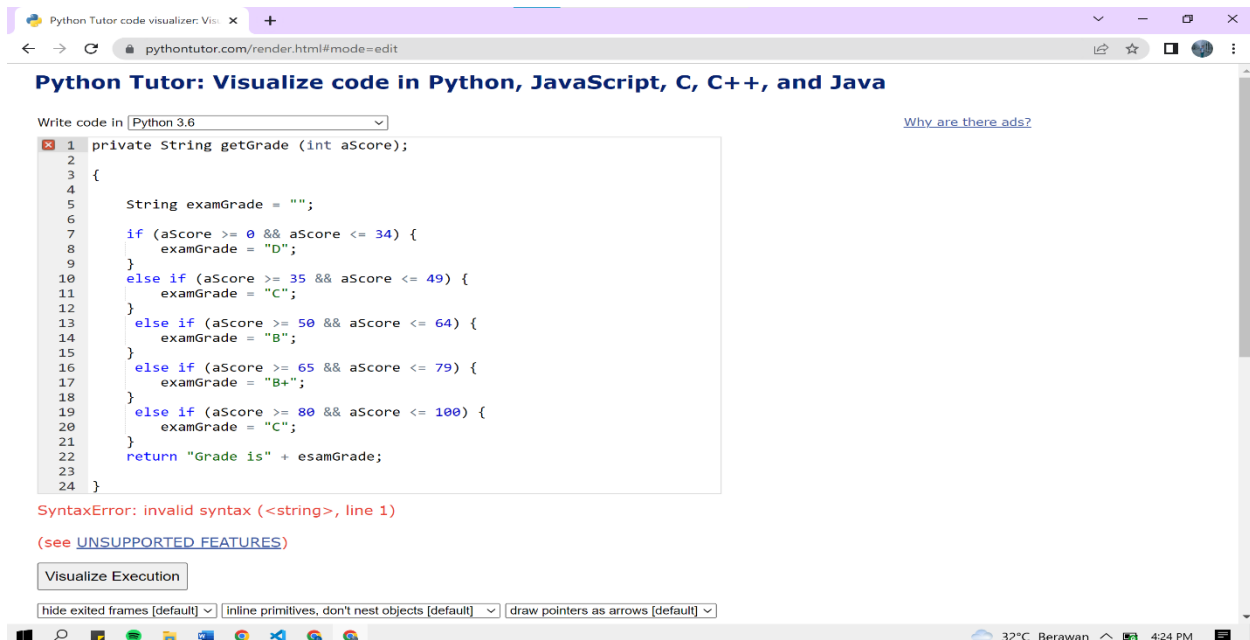


```
main.js
1 * function luas(alas, tinggi){
2   let luas_segitiga = 0.5 * alas * tinggi;
3   return `luas segitiga yang mempunyai alas: ${alas} dan tinggi
      ${tinggi} adalah ${luas_segitiga}`
4 }
5
6 let alas = 20
7 let tinggi = 25
8 console.log(luas(alas, tinggi))
```

Output

```
node /tmp/v8yXE6jg7U.js
luas segitiga yang mempunyai alas: 20 dan tinggi 25 adalah 250
```

### 2. Konversi Nilai



Python Tutor code visualizer: Vis: x +

python tutor.com/render.html#mode=edit

### Python Tutor: Visualize code in Python, JavaScript, C, C++, and Java

Write code in Python 3.6

```
1 private String getGrade (int aScore);
2
3 {
4
5   String examGrade = "";
6
7   if (aScore >= 0 && aScore <= 34) {
8     examGrade = "D";
9   }
10  else if (aScore >= 35 && aScore <= 49) {
11    examGrade = "C";
12  }
13  else if (aScore >= 50 && aScore <= 64) {
14    examGrade = "B";
15  }
16  else if (aScore >= 65 && aScore <= 79) {
17    examGrade = "B+";
18  }
19  else if (aScore >= 80 && aScore <= 100) {
20    examGrade = "C";
21  }
22  return "Grade is" + examGrade;
23 }
24 }
```

SyntaxError: invalid syntax (<string>, line 1)

(see [UNSUPPORTED FEATURES](#))

Visualize Execution

hide exited frames [default] | inline primitives, don't nest objects [default] | draw pointers as arrows [default]

32°C Berawan 4:24 PM

### 3. Faktor Bilangan

<pre>

```
$angka = 20;
$arr = [];
for ($i = 1; $i <= $angka; ++$i)
{
    if ($angka % $i == 0)
        $arr[] = '<b>'.$i.'</b>';
}

echo 'Faktor dari angka <b>'.$angka.'</b> adalah '.implode(' ', $arr);

?>
```

<pre>

```
$angka = 6;
$arr = [];
for ($i = 1; $i <= $angka; ++$i)
{
    if ($angka % $i == 0)
        $arr[] = '<b>'.$i.'</b>';
}

echo 'Faktor dari angka <b>'.$angka.'</b> adalah '.implode(' ', $arr);

?>
```

Faktor dari angka 20 adalah 1, 2, 4, 5, 10, 20

Faktor dari angka 6 adalah 1, 2, 3, 6

### 4. Faktor bilangan

#### Python Tutor: Visualize code in Python, JavaScript, C, C++, and Java

Java 8  
(known limitations)

```
1 import java.util.Scanner;
2 public class carifaktor
3 {
4     public static void main(String[] args)
5     {
6         int bilangan;
7         Scanner input = new Scanner(System.in);
8         System.out.print("20 : ");
9         bilangan = input.nextInt();
10        System.out.print("Faktor dari " + bilangan + "
11        for(int i=1;i<=bilangan;i++)
12        {
13            if(bilangan%i == 0)
14            {
15                System.out.print(i + " ");
16            }
17        }
18    }
19 }
```

[Edit this code](#)

→ line that just executed  
→ next line to execute

Print output (drag lower right corner to resize)

Frames Objects

main:7

[Why are there ads?](#)

**Waters**  
THE SCIENCE OF  
WHAT'S POSSIBLE.™

**Control  
Risk. Adopt  
Latest LCs**

Future Proof Your Lat  
With LC Refresh.  
Flexible Financing.  
Personalized Training  
& Support

Waters

## 5. Bilangan Prima

The screenshot shows the Python Tutor interface with a Java code editor. The code is for a program named `Menampilkan_bilangan_prima` that takes two integers as input and prints all prime numbers between them. The code is as follows:

```
1 import java.util.Scanner;
2 public class Menampilkan_bilangan_prima {
3     public static void main(String args[])
4     {
5         Scanner input = new Scanner(System.in);
6         int bil, awal, akhir;
7
8         System.out.println("11");
9         System.out.print(" : ");
10        awal=input.nextInt("13");
11        System.out.print(" : ");
12        akhir=input.nextInt();
13        System.out.println("-----");
14        for (int i=awal; i<=akhir; i++){
15            bil=0;
16            for (int j=1;j<=i;j++){
17                if (i%j==0){
18                    bil=bil+1;
19                }
20            }
21            if (bil==2){
22                System.out.print(i+" ");
23            }
24        }
25    }
26 }
```

A red error message is displayed at the bottom: `SyntaxError: invalid syntax (<string>, line 2)` with a link to `(see UNSUPPORTED FEATURES)`. An advertisement for Waters is visible on the right side of the interface.

## 6. Palindrome

The screenshot shows the Python Tutor interface with a Java code editor. The code is for a program named `Main` that checks if a string is a palindrome. The code is as follows:

```
1 class Main {
2
3     private static boolean palindrome(String value) {
4
5         String str = "katak", reverseStr = "";
6
7         int strLength = str.length();
8
9         for (int i = (strLength - 1); i >=0; --i) {
10             reverseStr = reverseStr + str.charAt(i);
11         }
12
13         if (str.toLowerCase().equals(reverseStr.toLowerCase())) {
14             System.out.println(str + " is a Palindrome String.");
15         }
16         else {
17             System.out.println(str + " is not a Palindrome String.");
18         }
19     }
20 }
21
22 }
23
24 public static void main(String[] args) {
25     system.out.println(palindrome("civic"));
26     system.out.println(palindrome("katak"));
27     system.out.println(palindrome("kasur rusak"));
28     system.out.println(palindrome("kupu-kupu"));
29     system.out.println(palindrome("lion"));
30 }
31 }
```

A red error message is displayed at the bottom: `SyntaxError: invalid syntax (<string>, line 1)`. The interface also shows a "Restore Down" button in the top right corner.

## **Branching**

1.