Mr C has a long floating name

ESC101: Foundations of Computing

Purushottam Kar

Announcements

- Special session on using computers
  - August 11, 2018 (coming Saturday), 5PM, NCL CC-02
  - Not a revision class – only for students who are new to computers
  - Thanks to Parth Sharma (tutor) for the suggestion and offer

Adding two unknown numbers

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HOW WE USUALLY SPEAK TO A HUMAN

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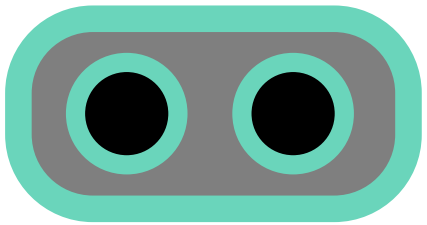

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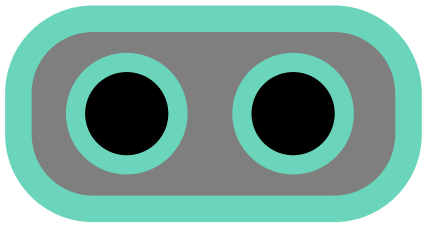

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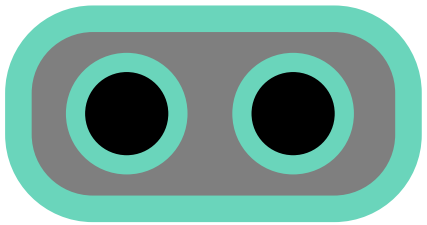

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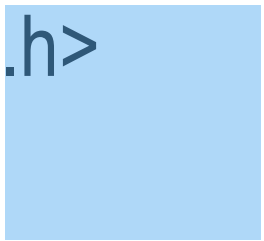
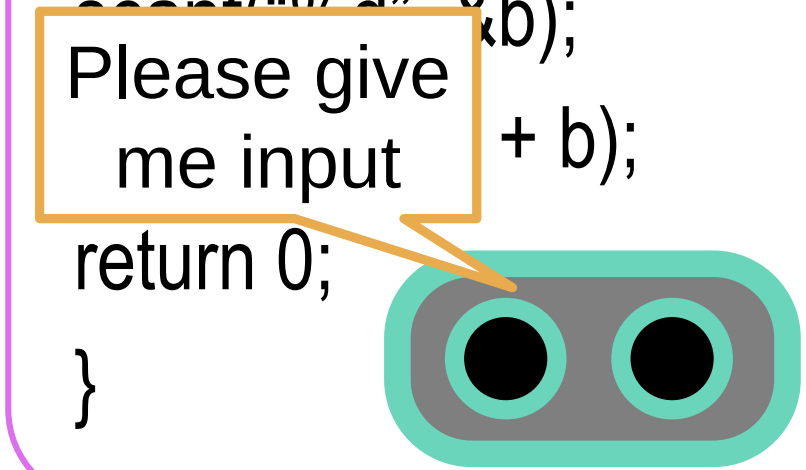


a b



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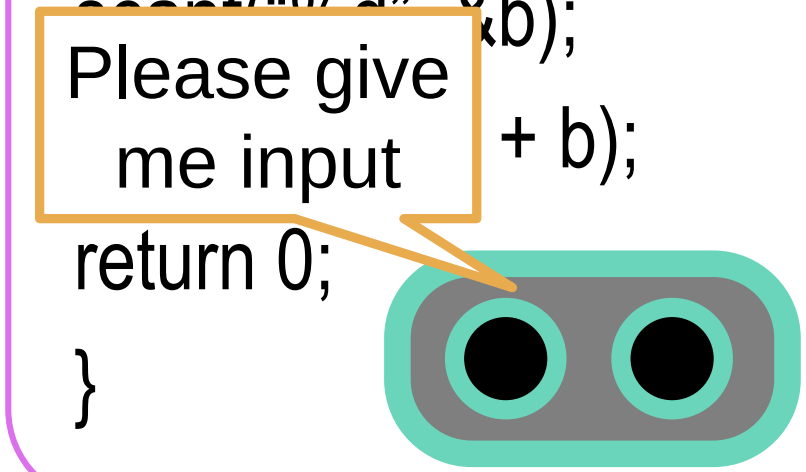

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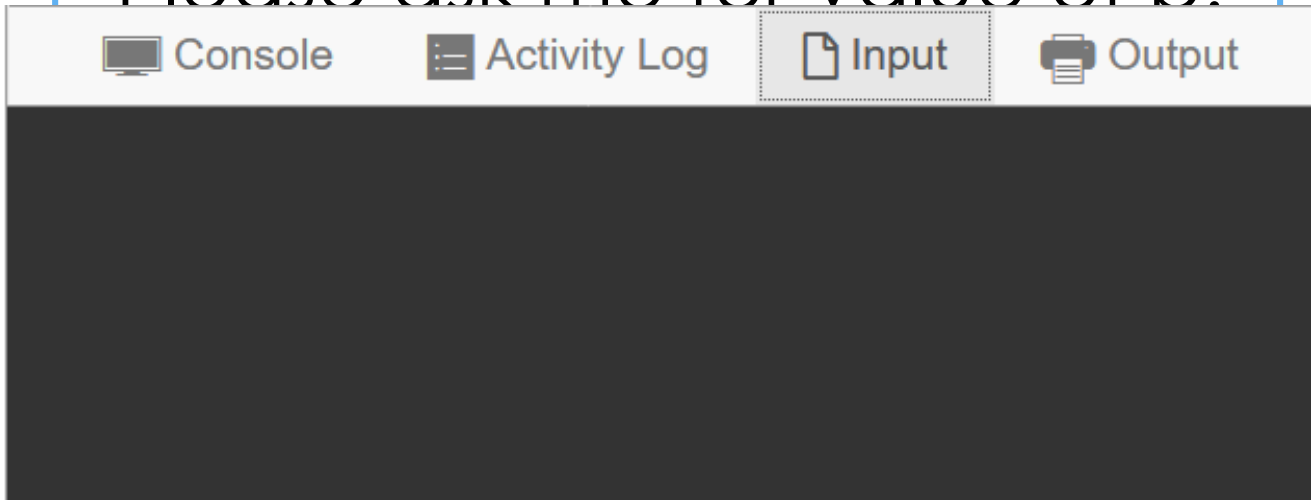

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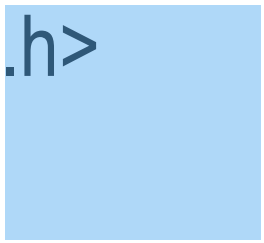
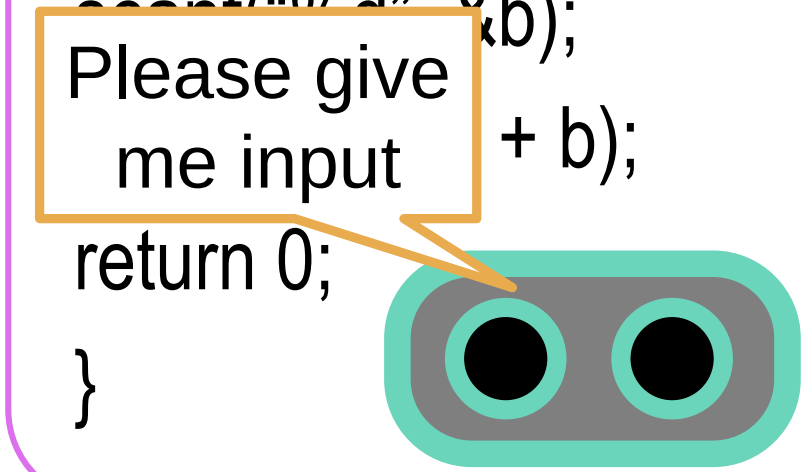


a

b



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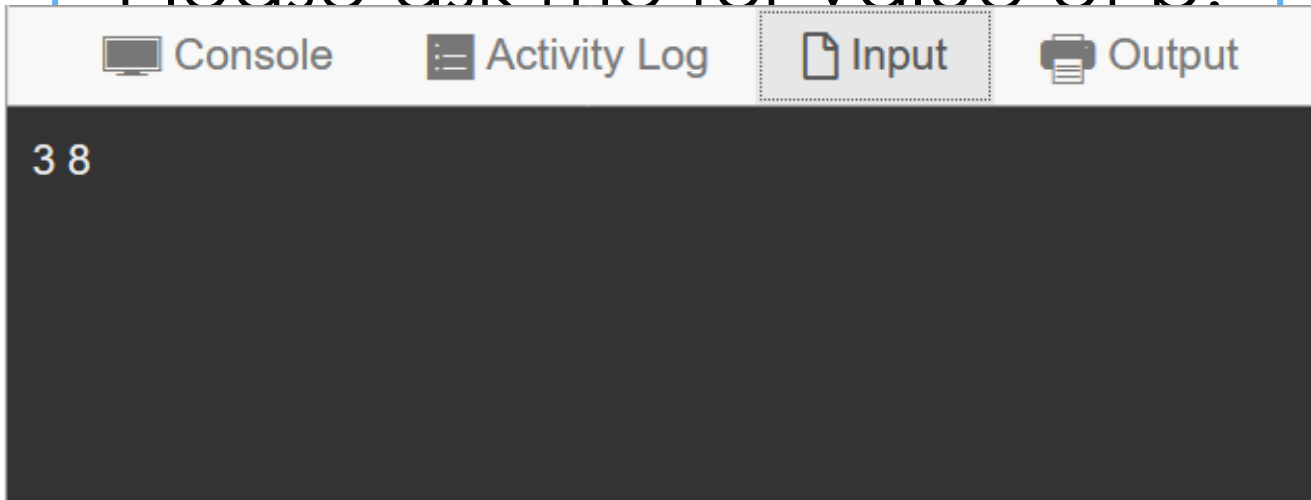

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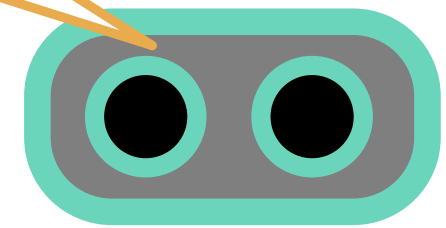
int main(){
                                  b
                    &b);
                    + b);
return 0;
}
```

Thanks. Let me get back to work

Please give me input



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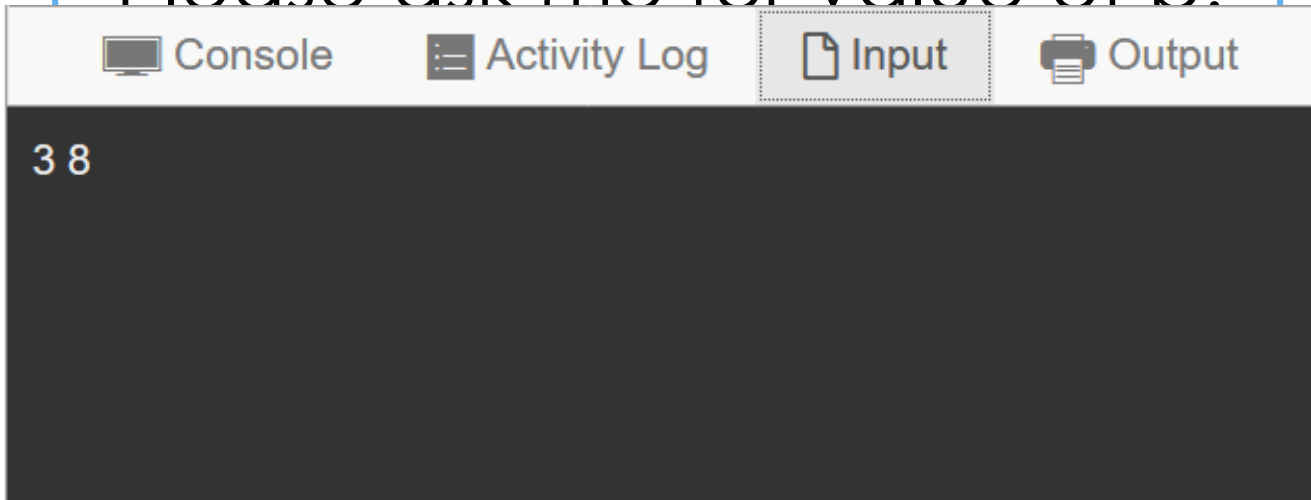

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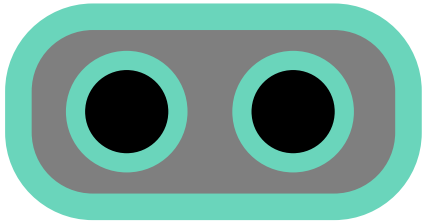

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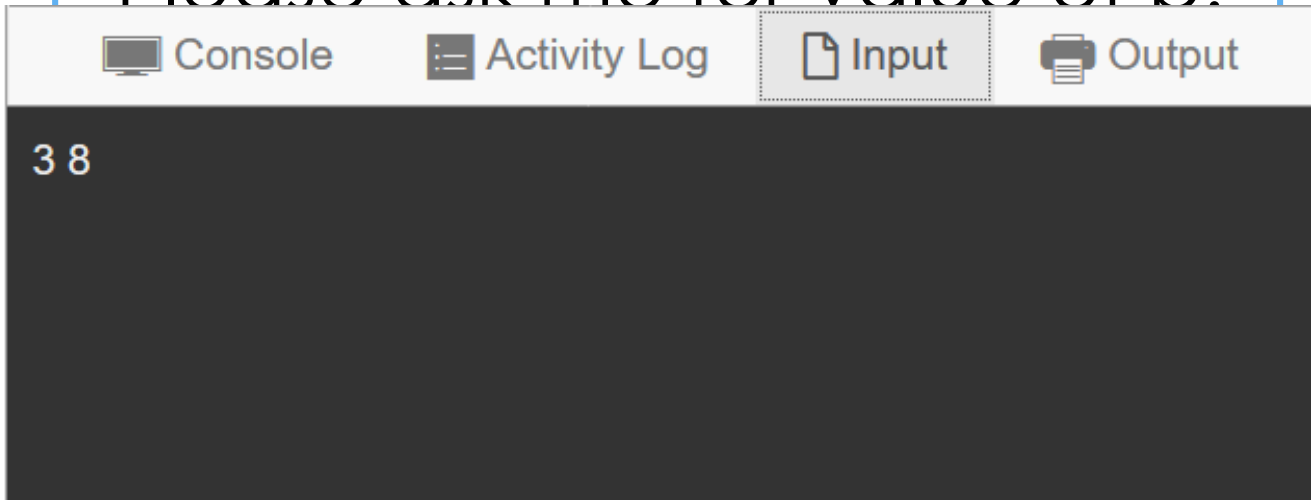

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a

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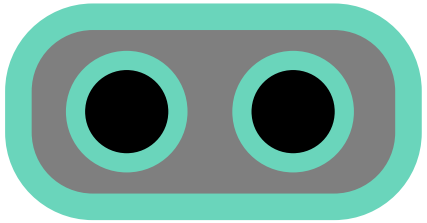

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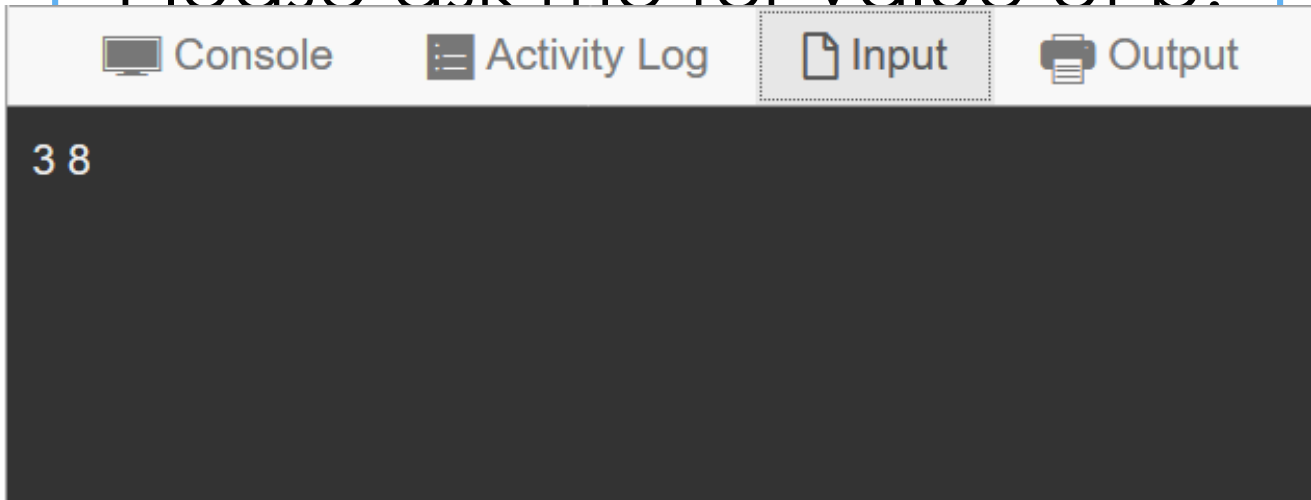

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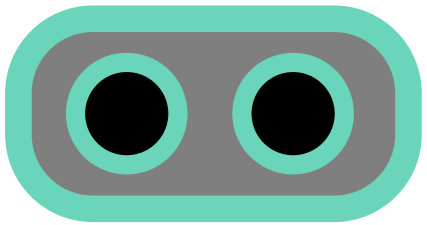

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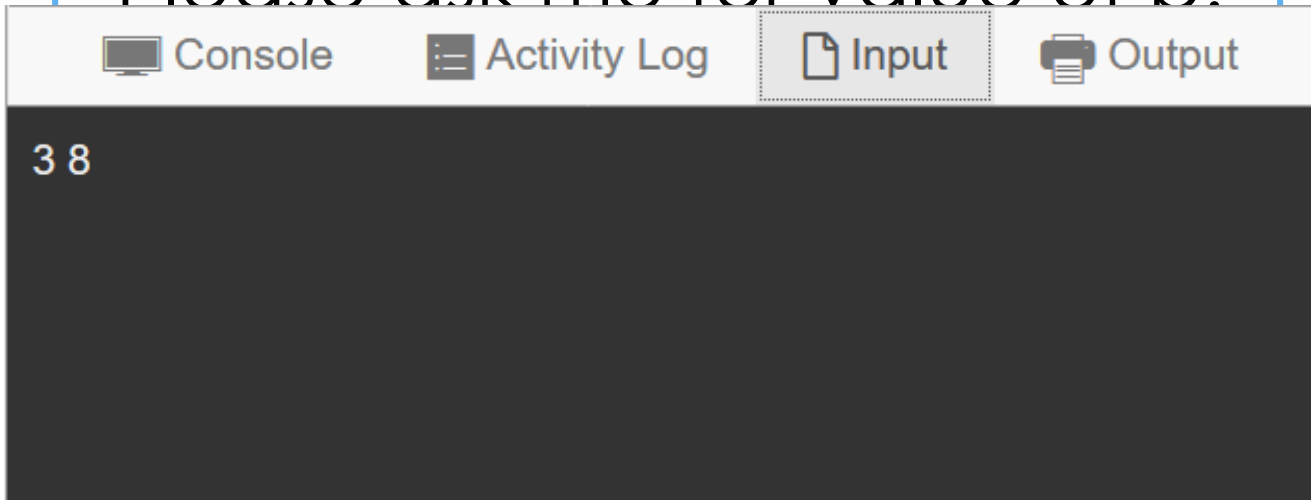

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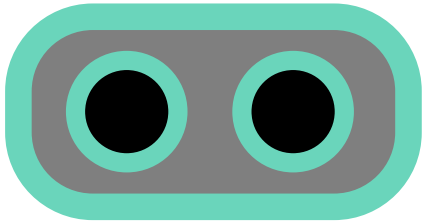

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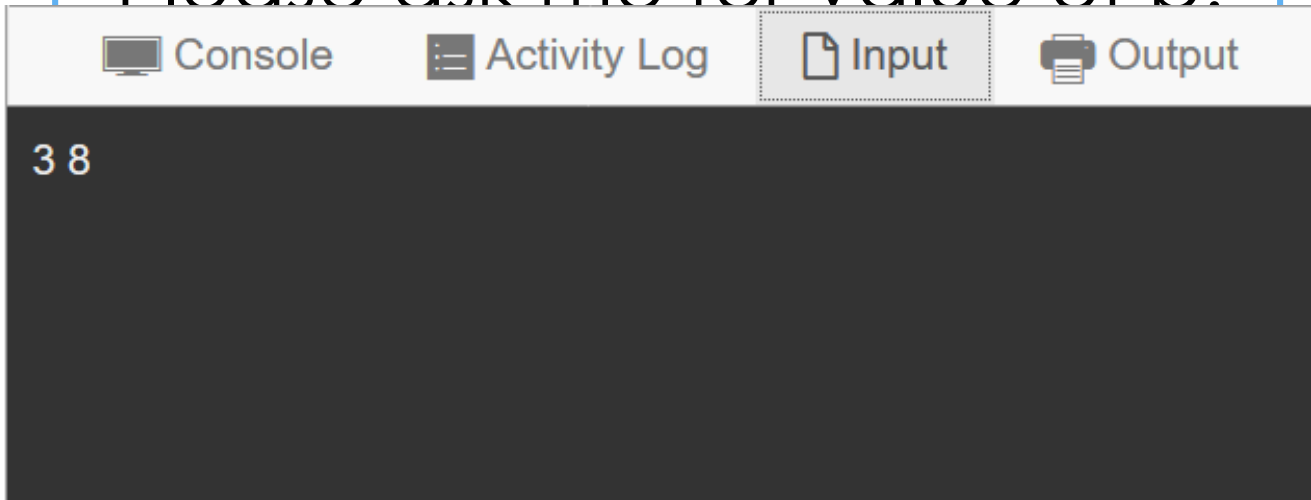

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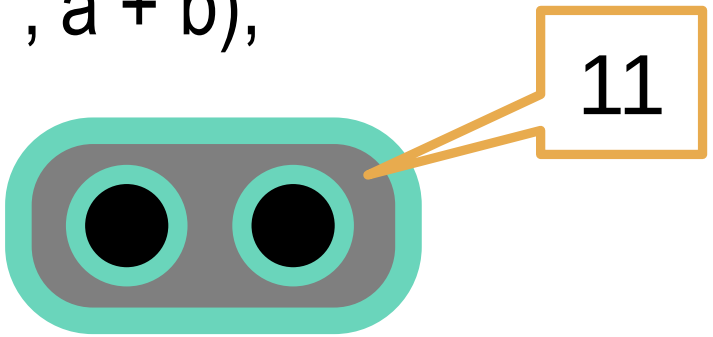

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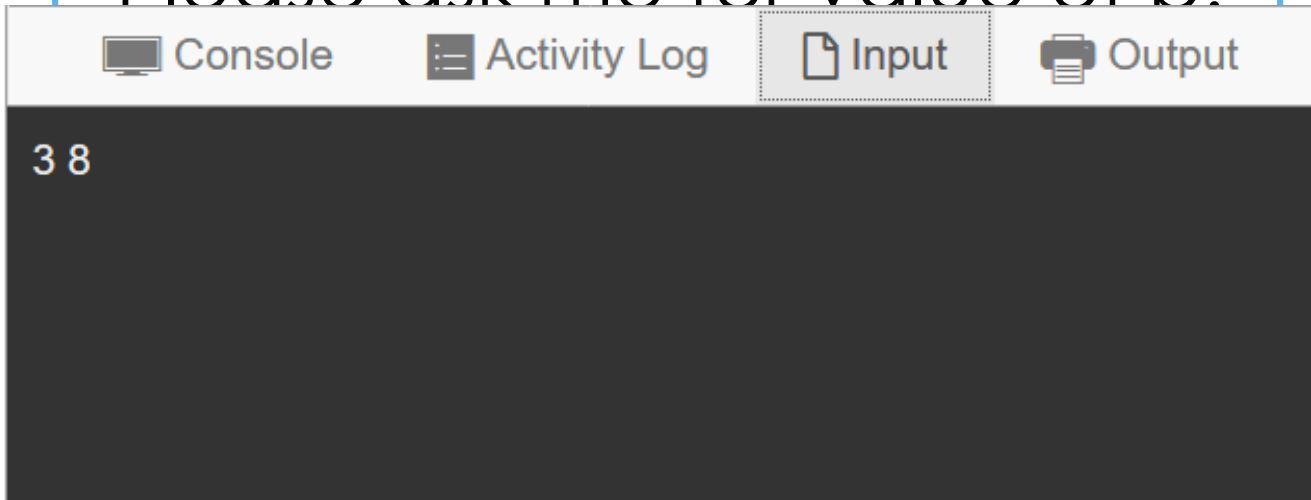

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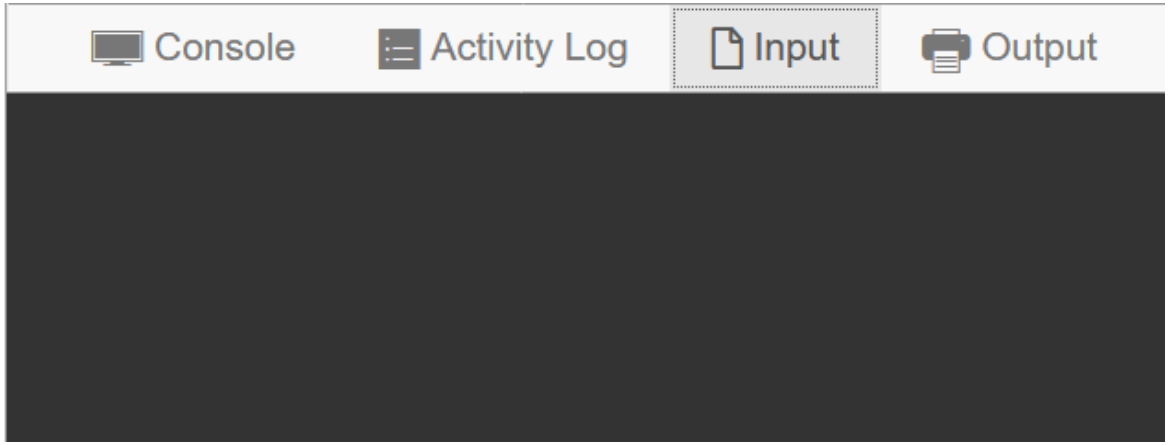

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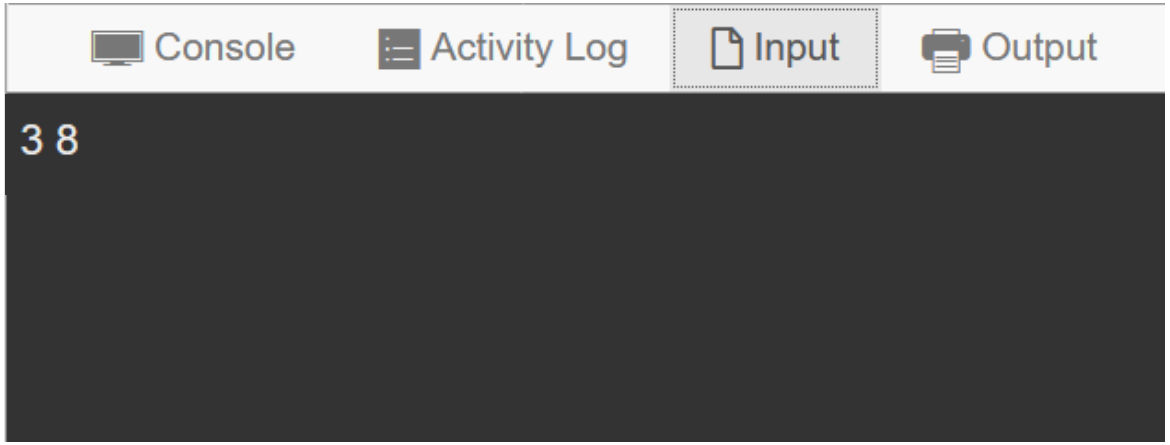

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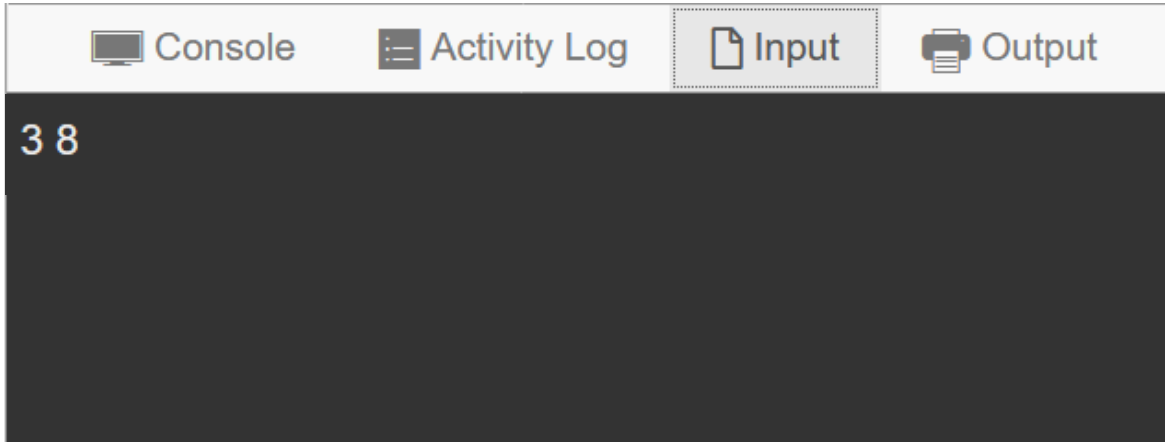

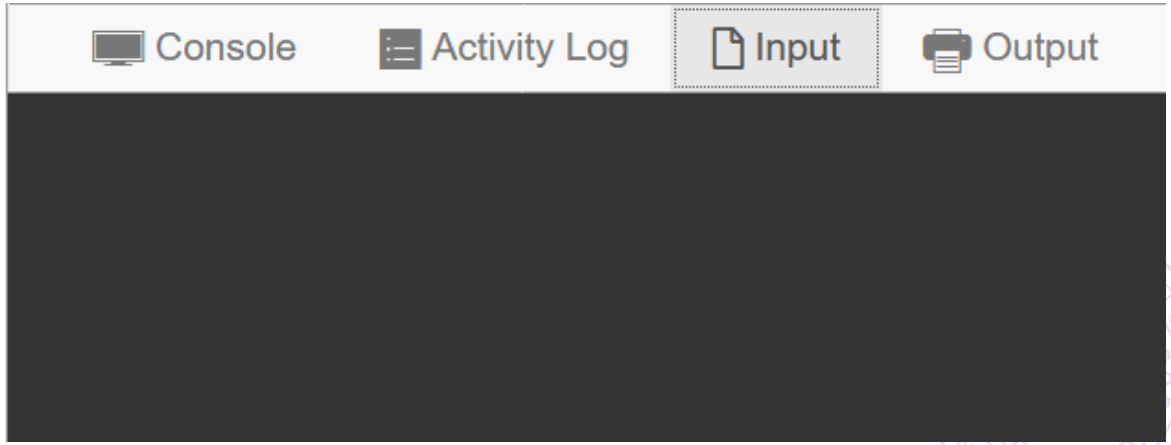

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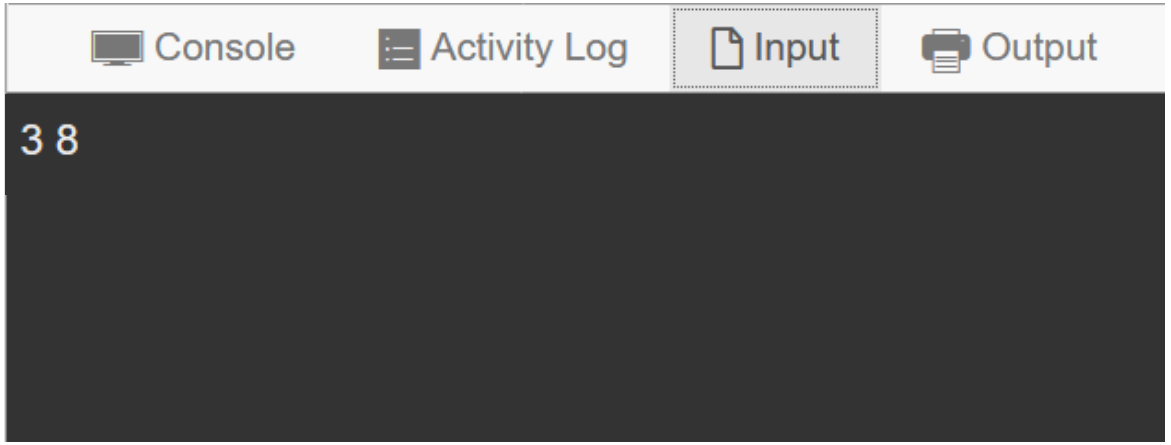

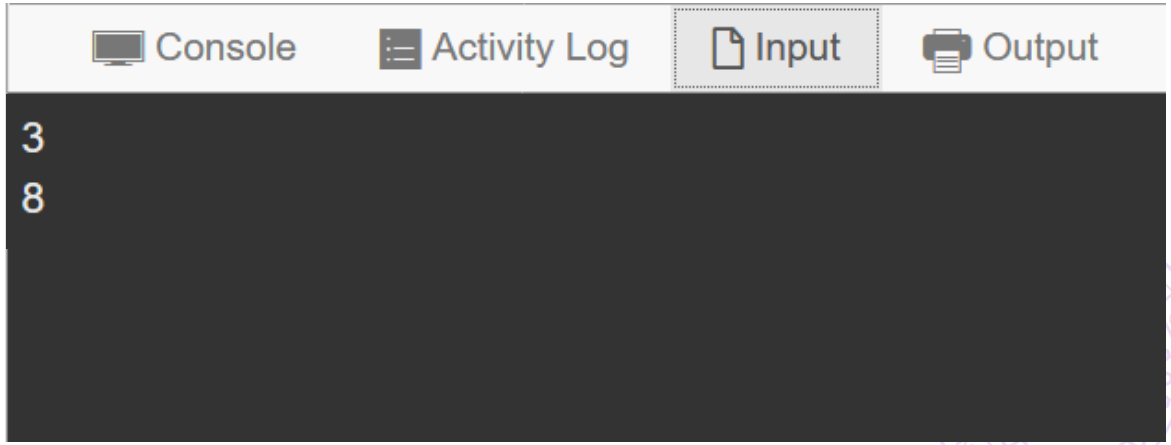

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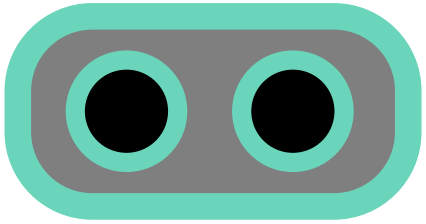


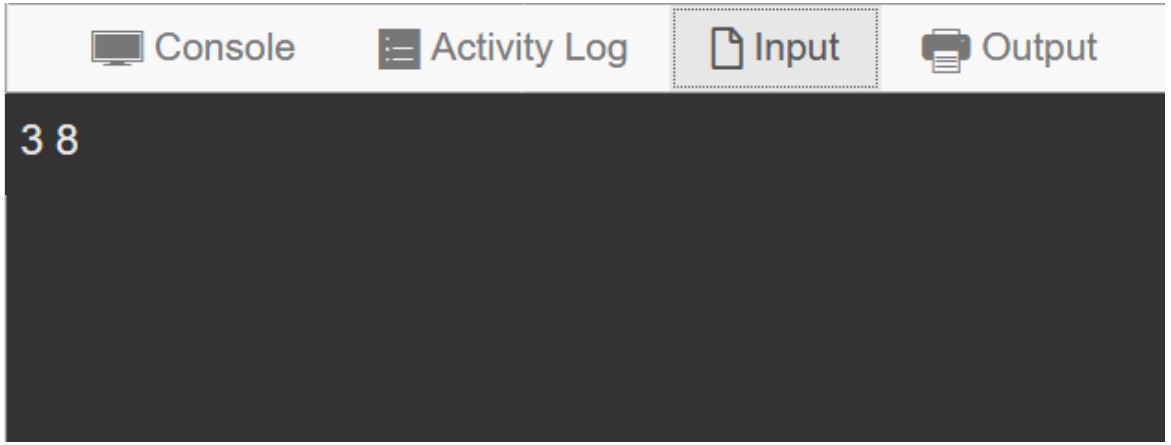
In Prutor, input has to be specified before “Execute”

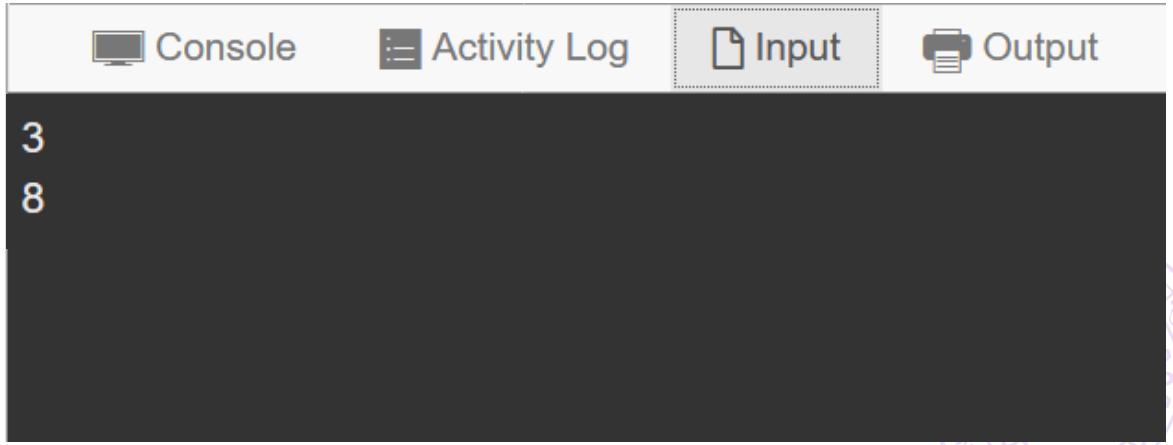
Please be very careful about this common mistake

scanf(“%d”,a); 

scanf(“%d”,&a); 

Will explain what this & means, in a few weeks





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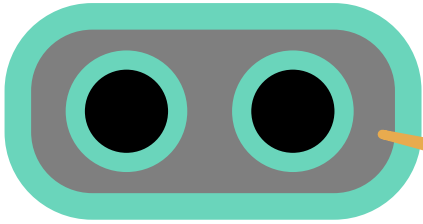

Both work!
Experiment!

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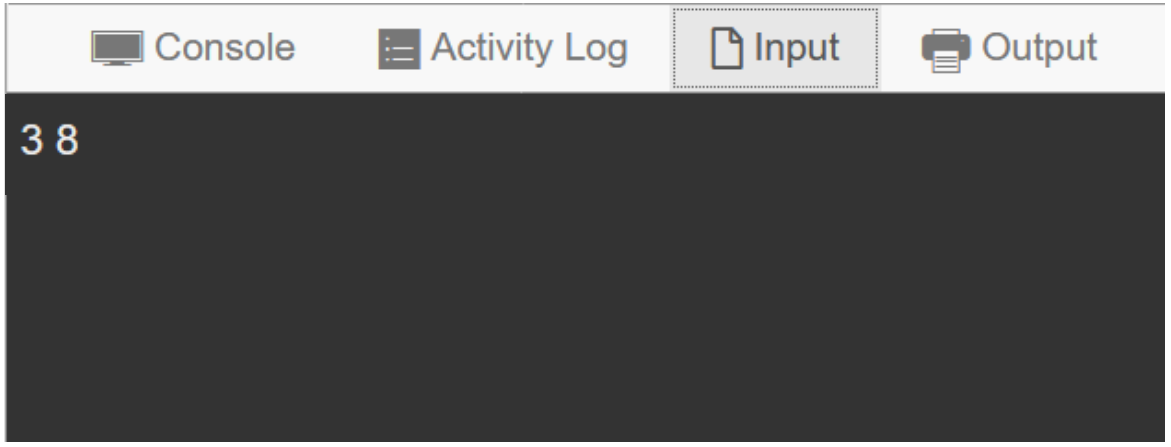

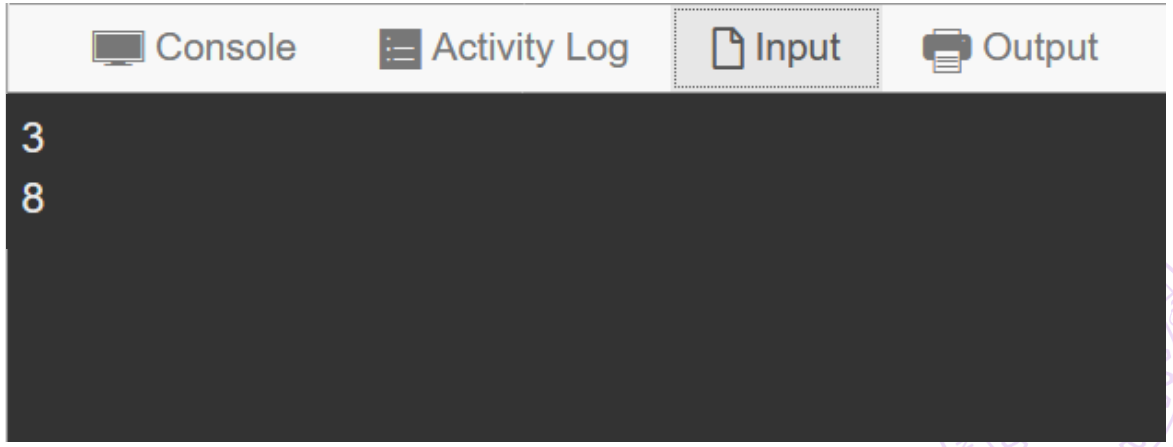

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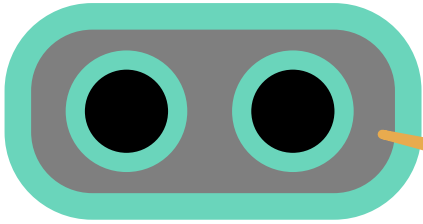

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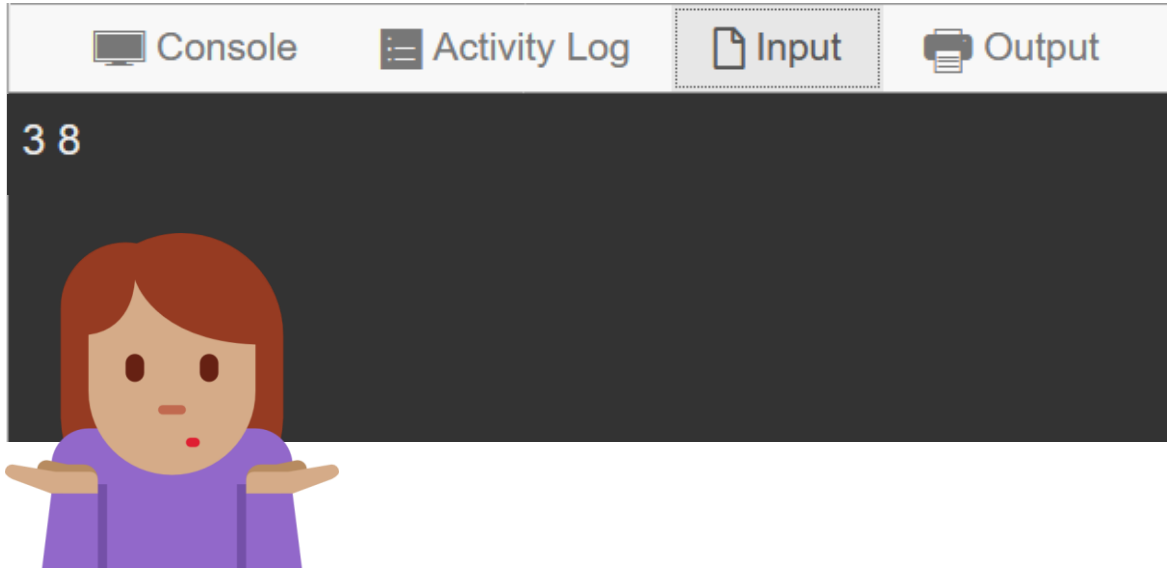

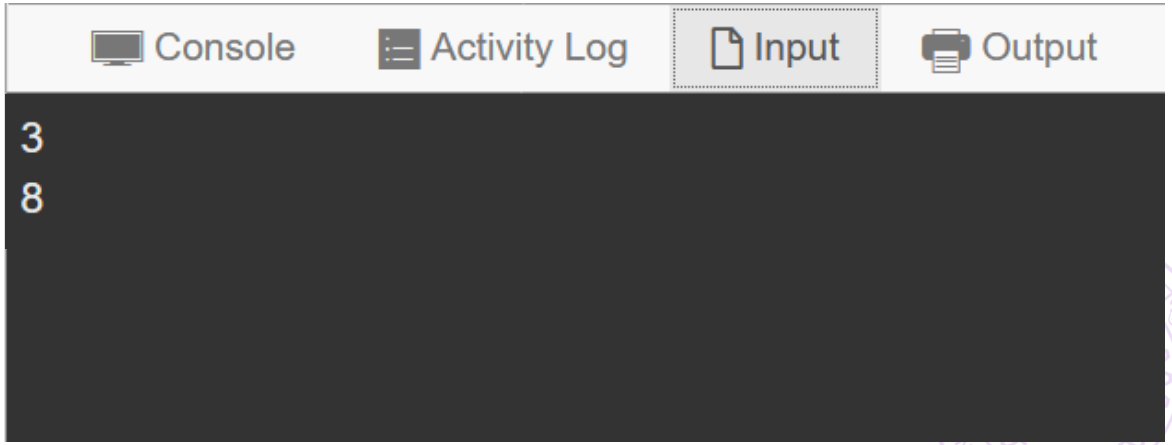

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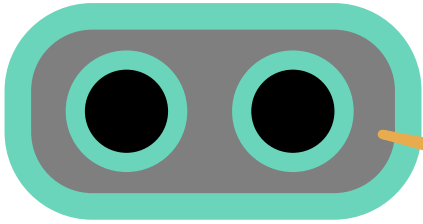

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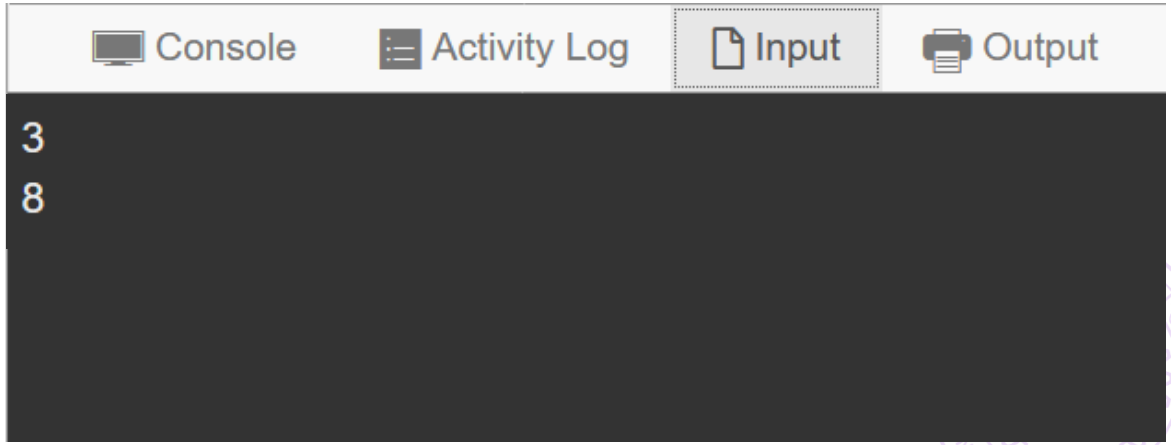

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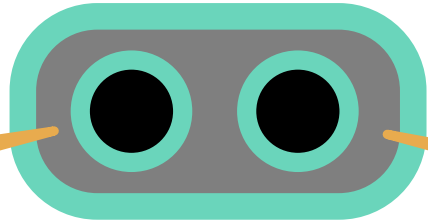

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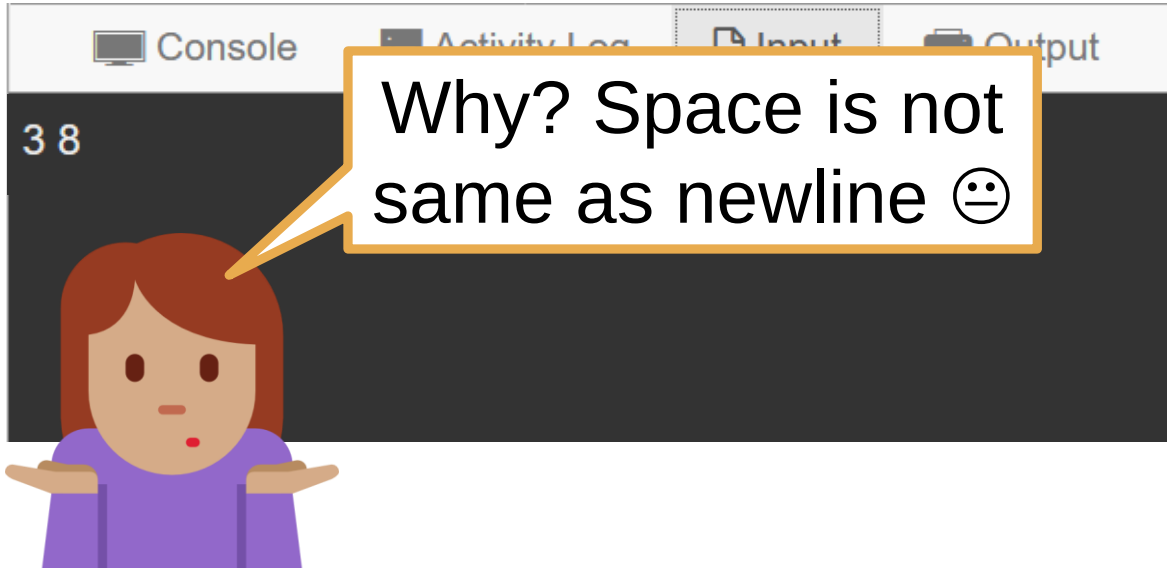

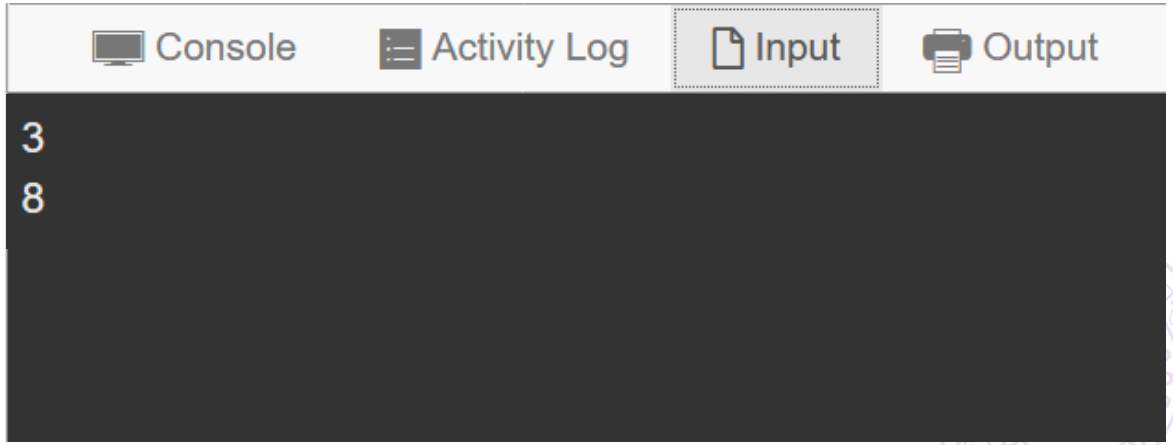

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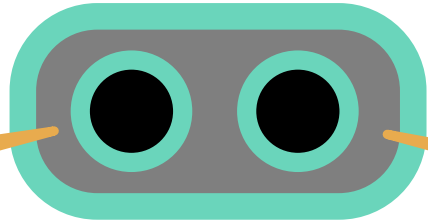

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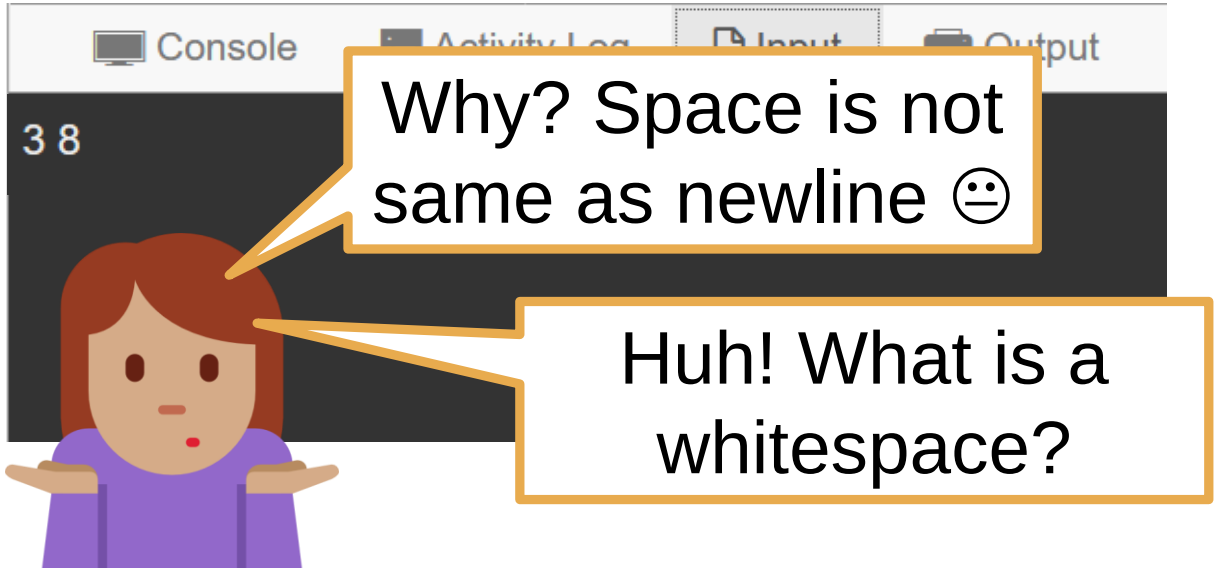

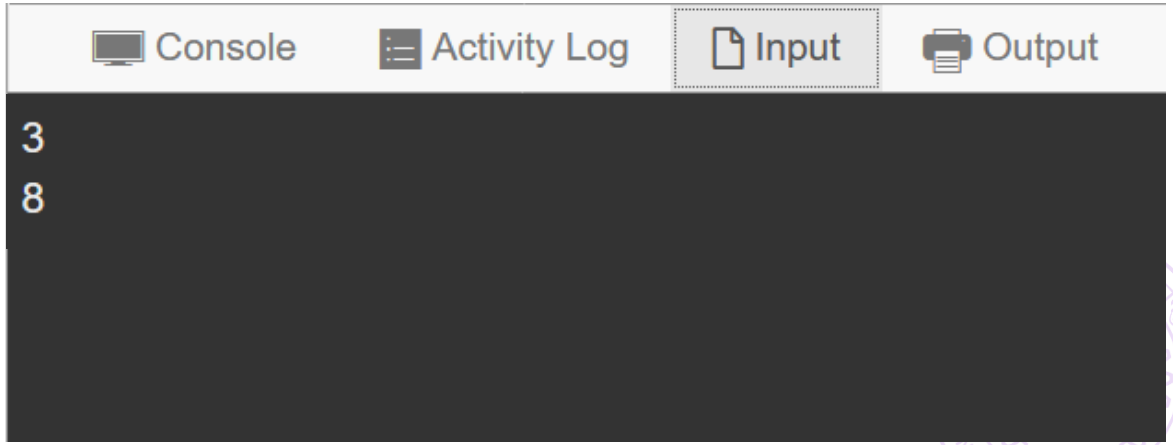

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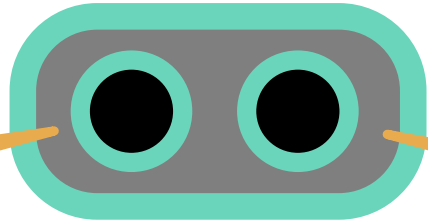

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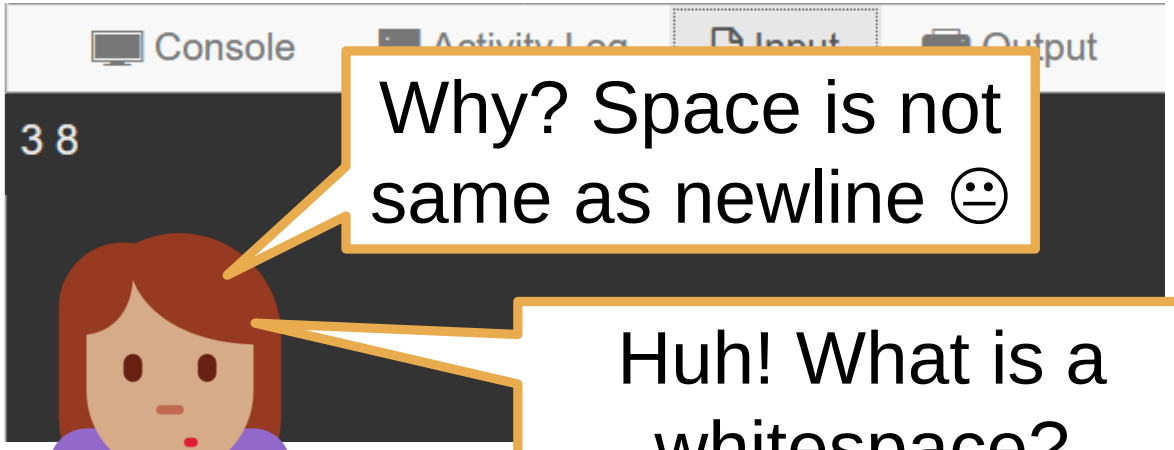

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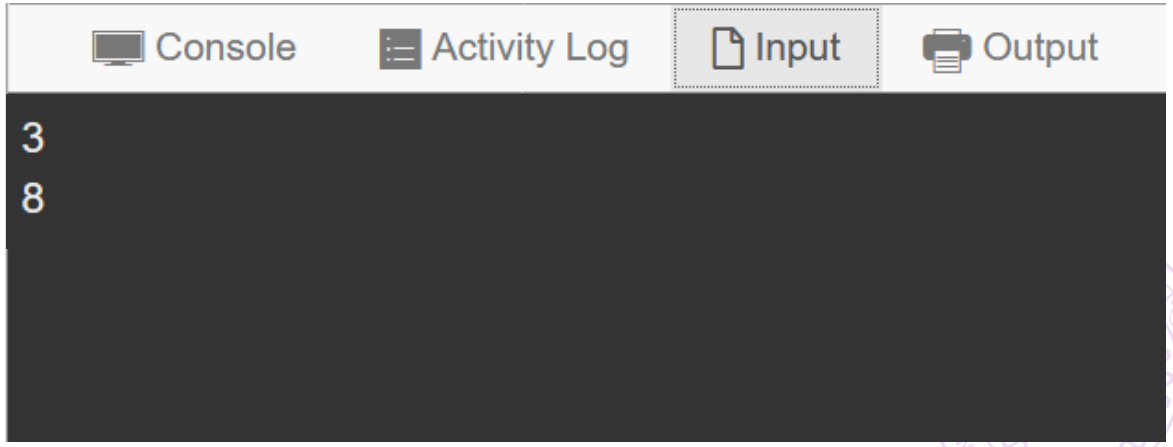

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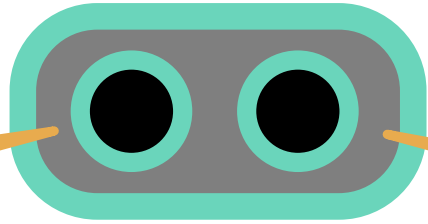

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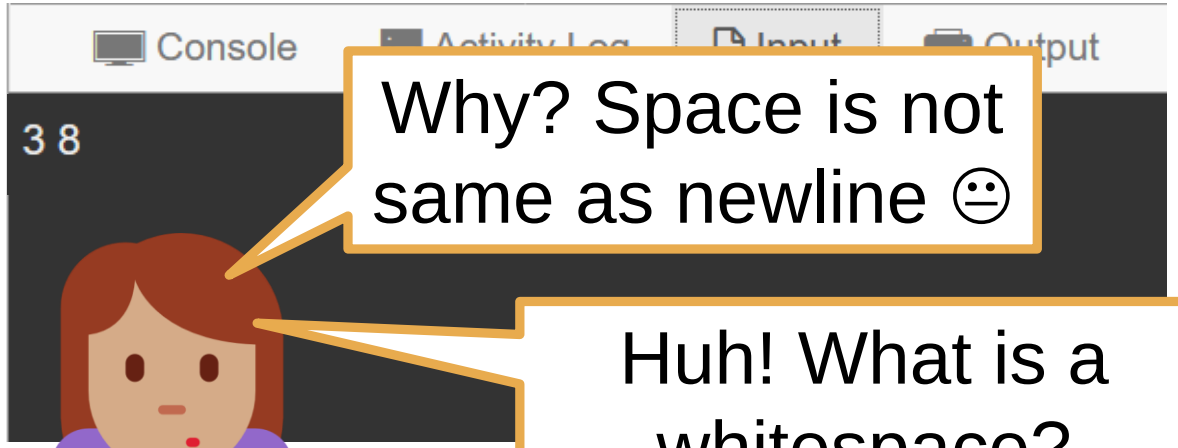
, in a few weeks



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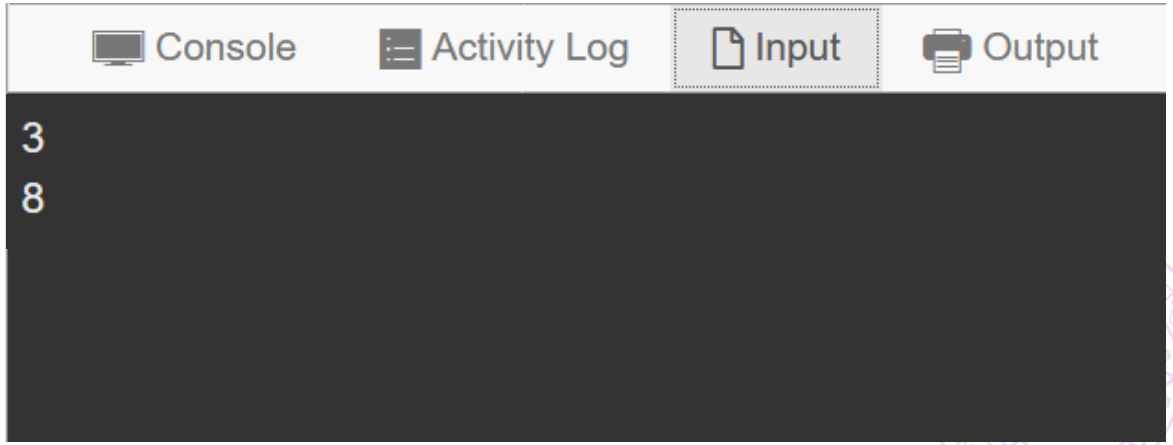

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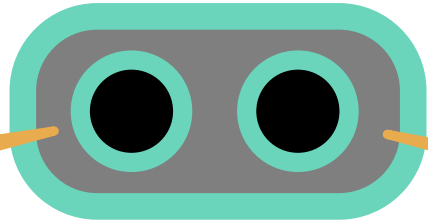

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TAB

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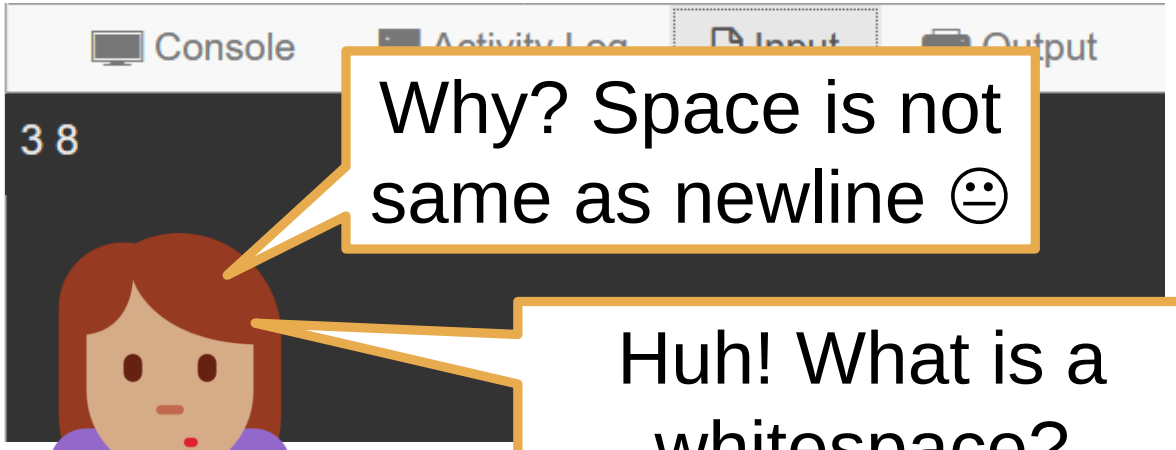

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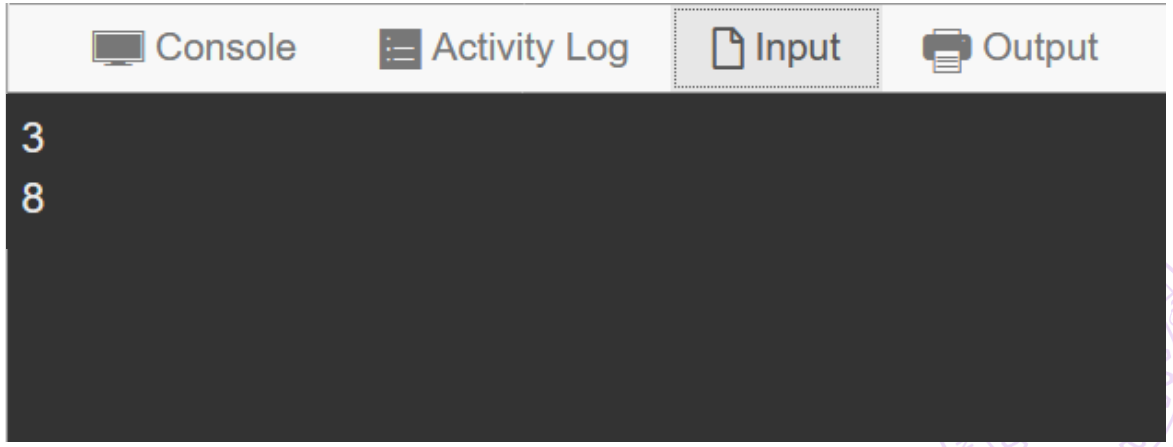

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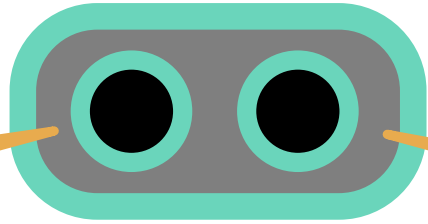

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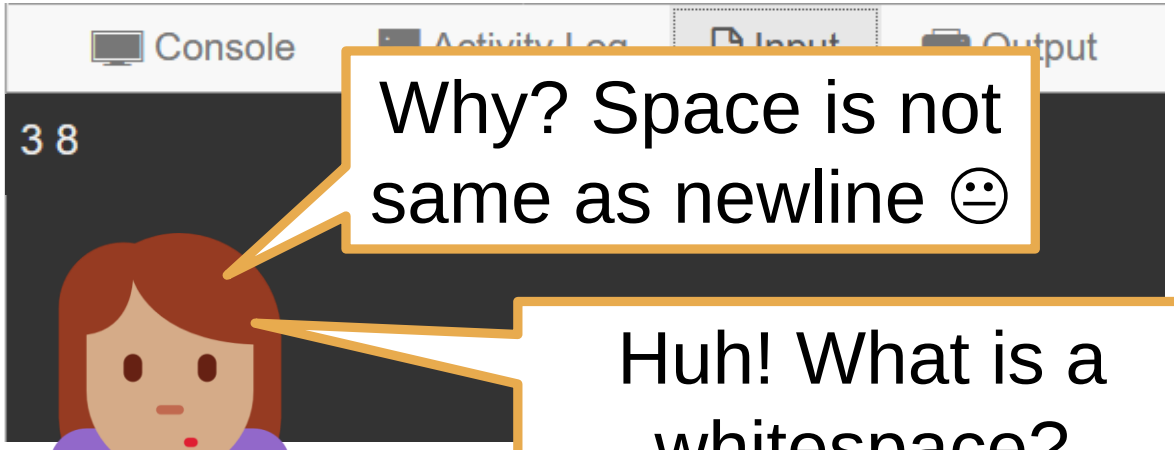
TAB SPACE

Will explain what this & means, in a few weeks



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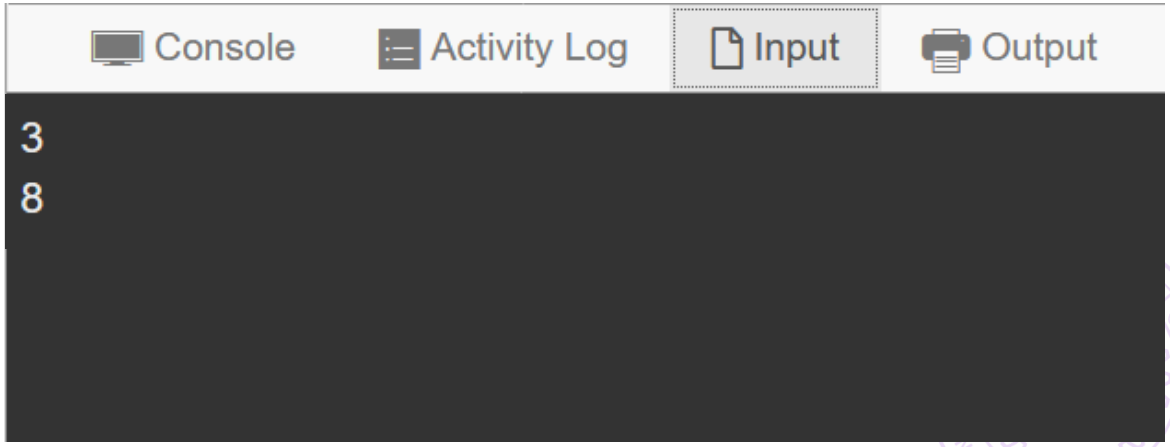

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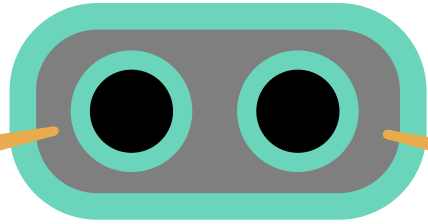

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```
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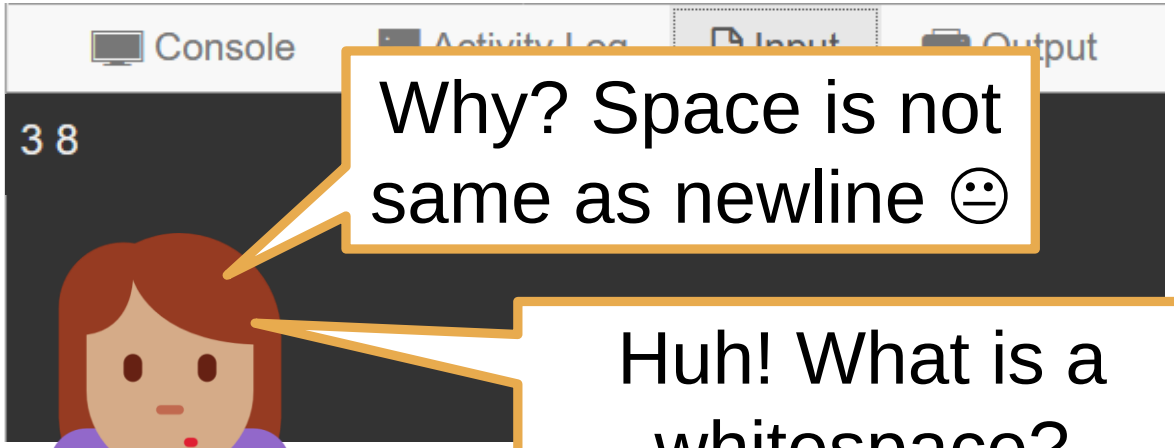
```

TAB SPACE NEWLINE

in a few weeks



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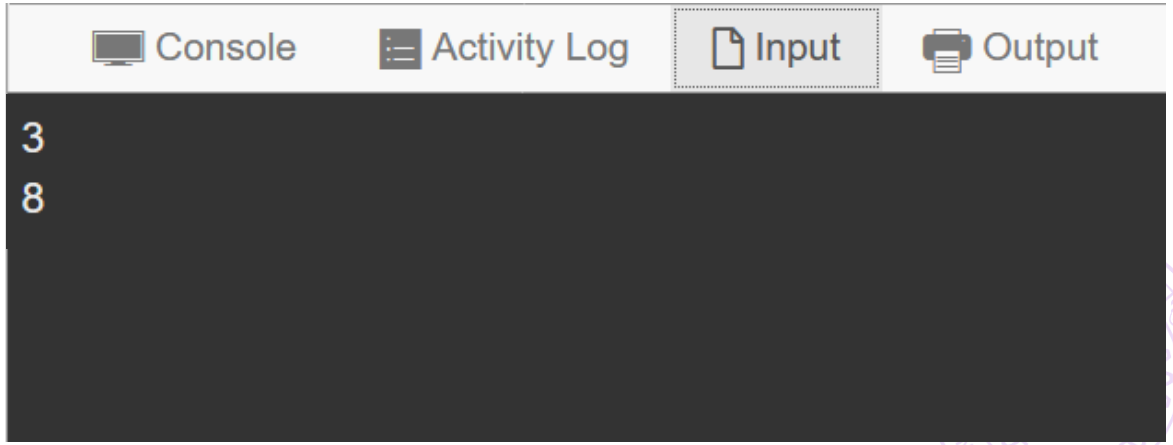

Shorthand for multiple inputs

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HOW WE USUALLY SPEAK TO A HUMAN

Shorthand for multiple inputs

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HOW WE USUALLY SPEAK TO A HUMAN

Do you speak English?

Shorthand for multiple inputs

HOW WE USUALLY SPEAK TO A HUMAN

Do you speak English?

Hello

Shorthand for multiple inputs

HOW WE USUALLY SPEAK TO A HUMAN

Do you speak English?

Hello

a, b are two variables.

Shorthand for multiple inputs

HOW WE USUALLY SPEAK TO A HUMAN

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a, b are two variables.

Ask me for values of a and b. I will give both values separated by a whitespace

Shorthand for multiple inputs

HOW WE USUALLY SPEAK TO A HUMAN

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a, b are two variables.

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Please print their sum.

Shorthand for multiple inputs

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Goodbye

Shorthand for multiple inputs

HOW WE MUST SPEAK TO MR. COMPILER

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#include <stdio.h>
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int main(){
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```

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HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
scanf("%d%d", &a, &b);
printf("%d", a + b);
```

HOW WE USUALLY SPEAK TO A HUMAN

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HOW WE MUST SPEAK TO MR. COMPILER

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#include <stdio.h>
int main(){
int a, b;
scanf("%d%d", &a, &b);
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return 0;
```

HOW WE USUALLY SPEAK TO A HUMAN

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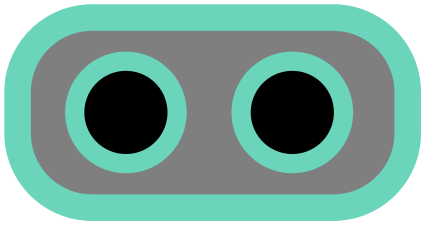

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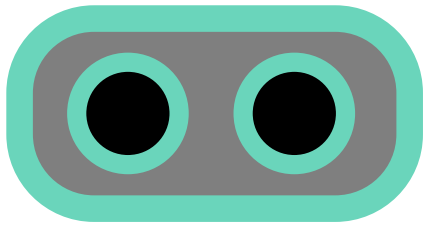

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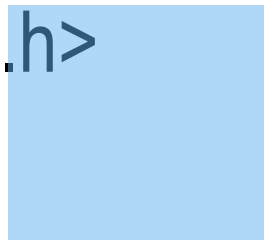
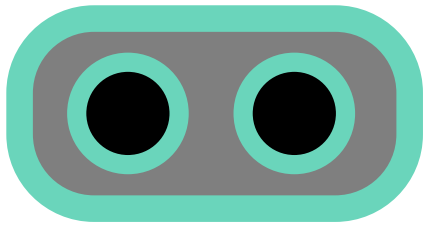


a

b



HOW WE USUALLY SPEAK TO A HUMAN

Do you speak English?

Hello

a, b are two variables.

Ask me for values of a and b. I will give both values separated by a whitespace

Please print their sum.

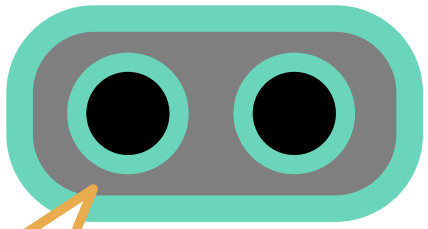
Goodbye

Shorthand for multiple inputs

HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
scanf("%d%d", &a, &b);
printf("%d", a + b);
return 0;
}
```

a b



Input please

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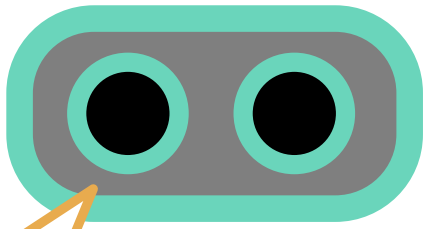

Input please

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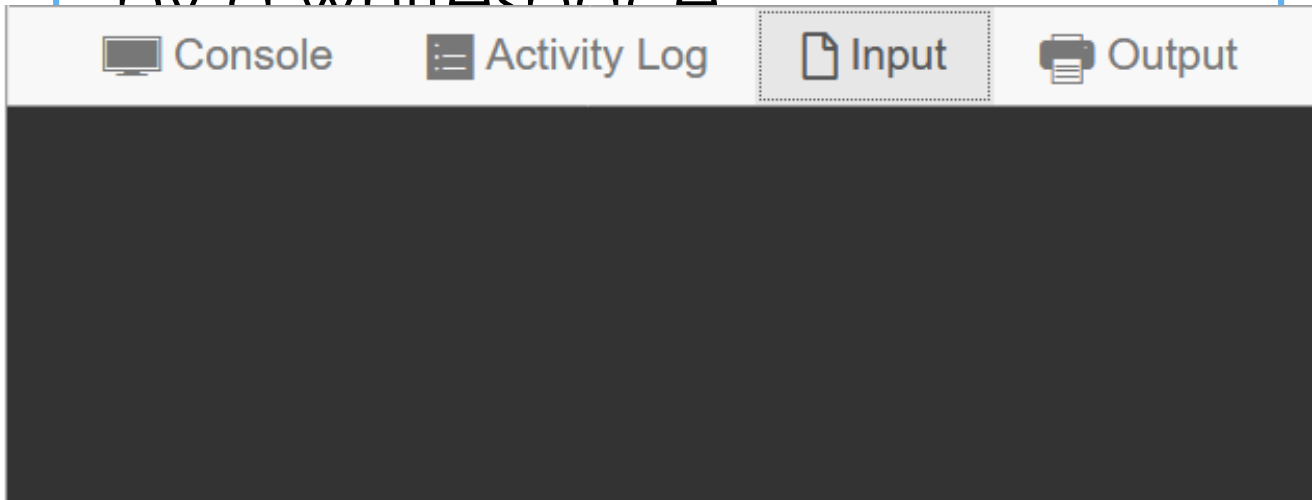

Shorthand for multiple inputs

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```
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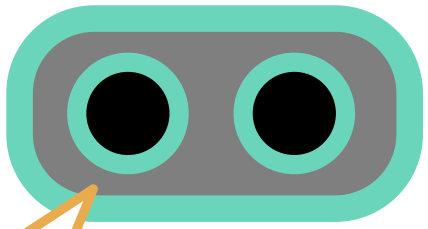
```

a

b



Input please

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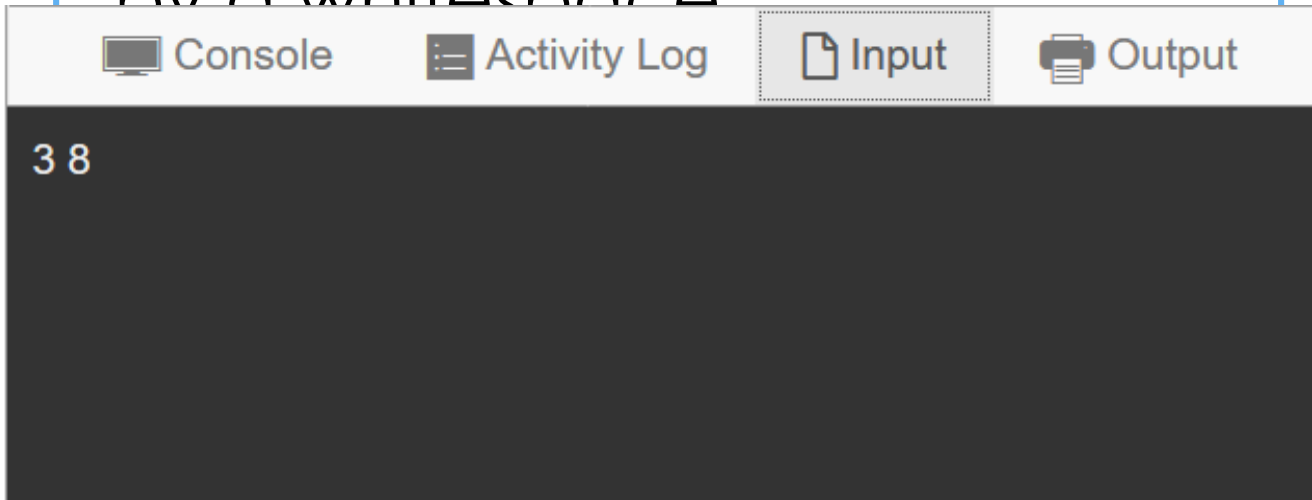

Shorthand for multiple inputs

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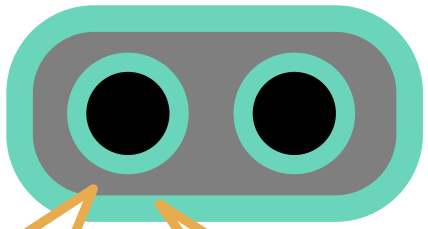
return 0;
}
```

a

b



Input please

Thanks

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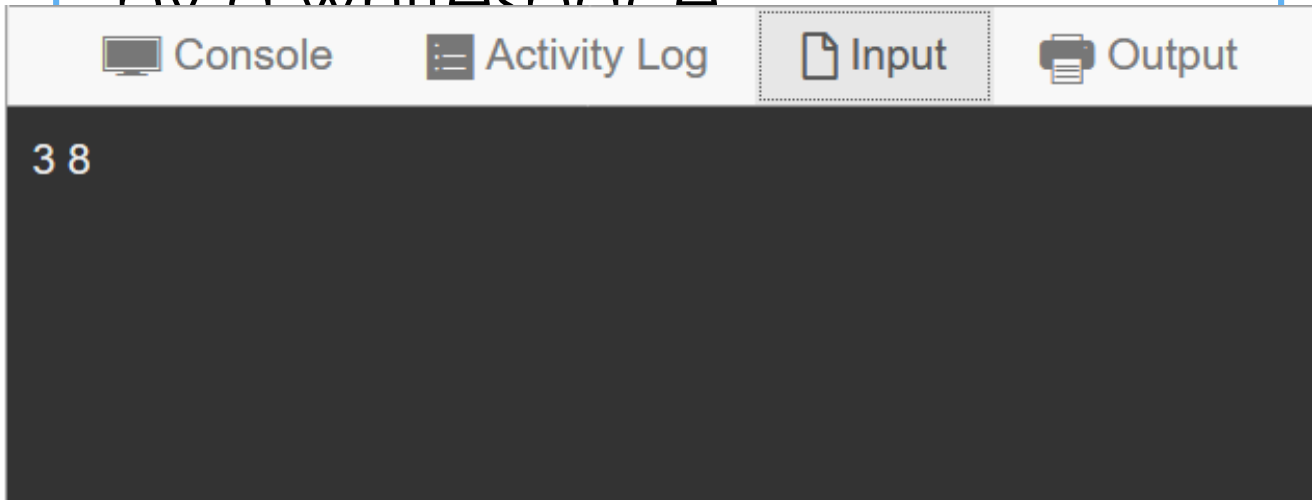

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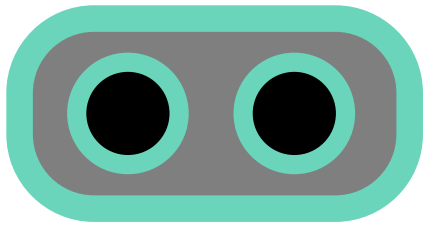
return 0;
}
```

a b



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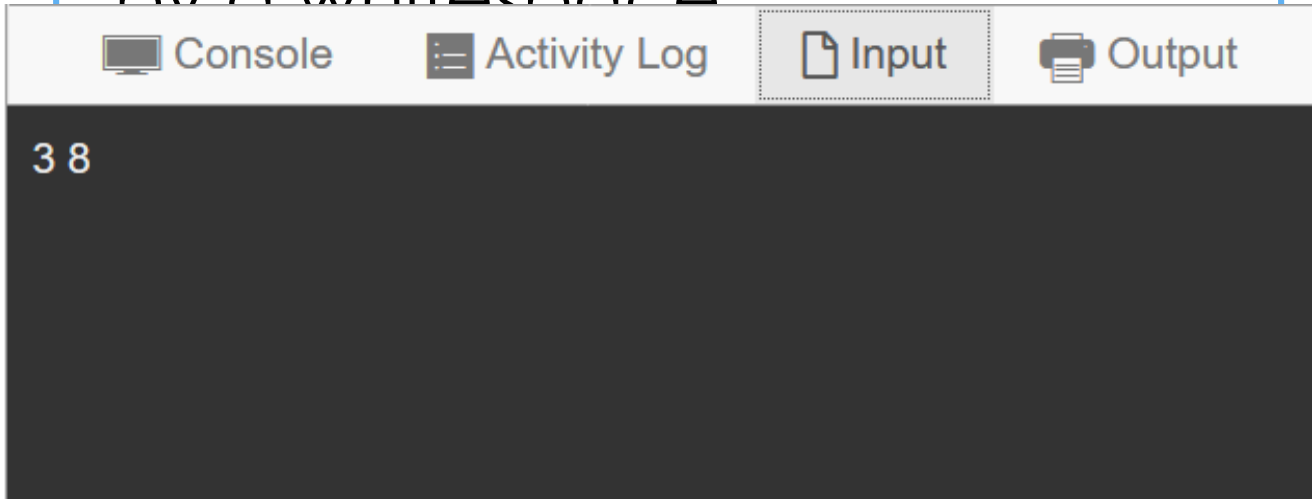

Shorthand for multiple inputs

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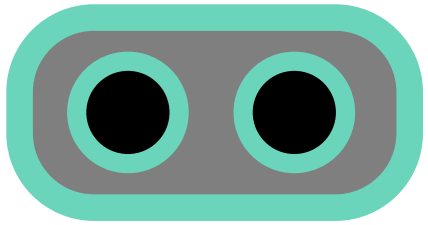
```
#include <stdio.h>
int main(){
int a, b;
scanf("%d%d", &a, &b);
printf("%d", a + b);
return 0;
}
```

3

a

b



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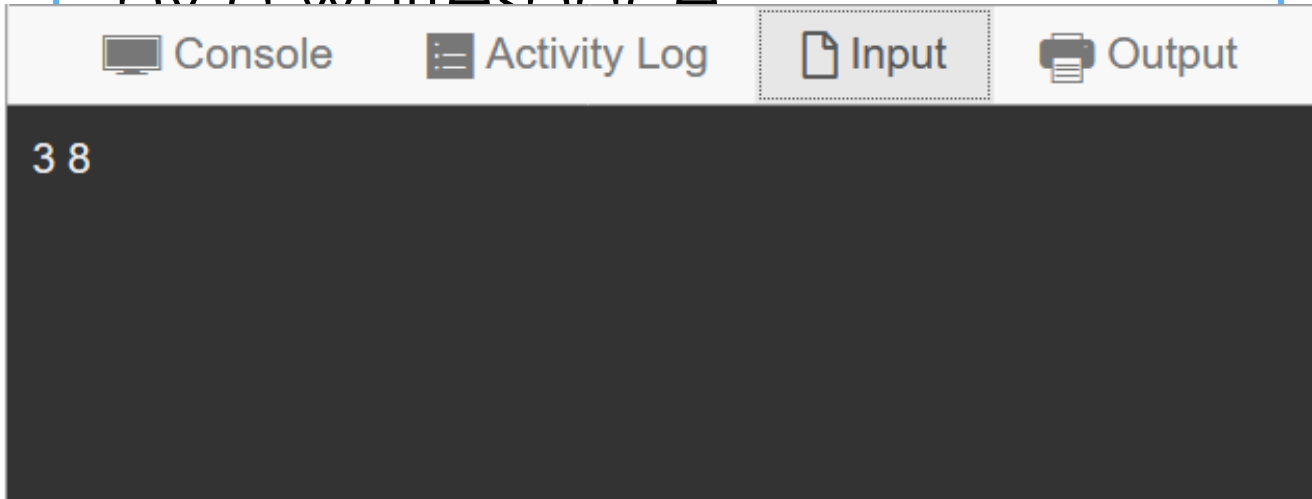

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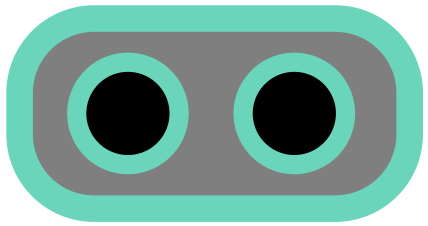
printf("%d", a + b);
return 0;
}
```

3 a

8 b



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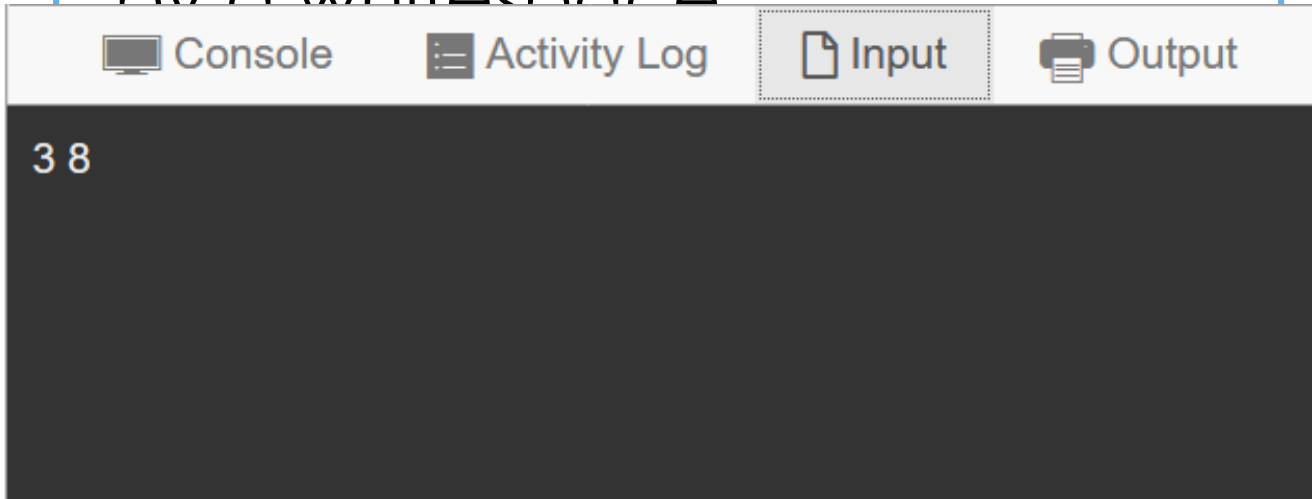

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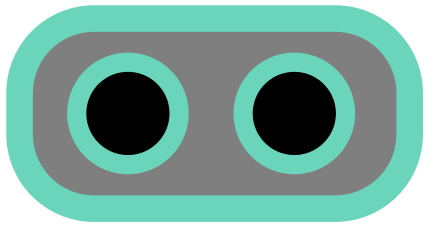
```

3 a 8 b 11



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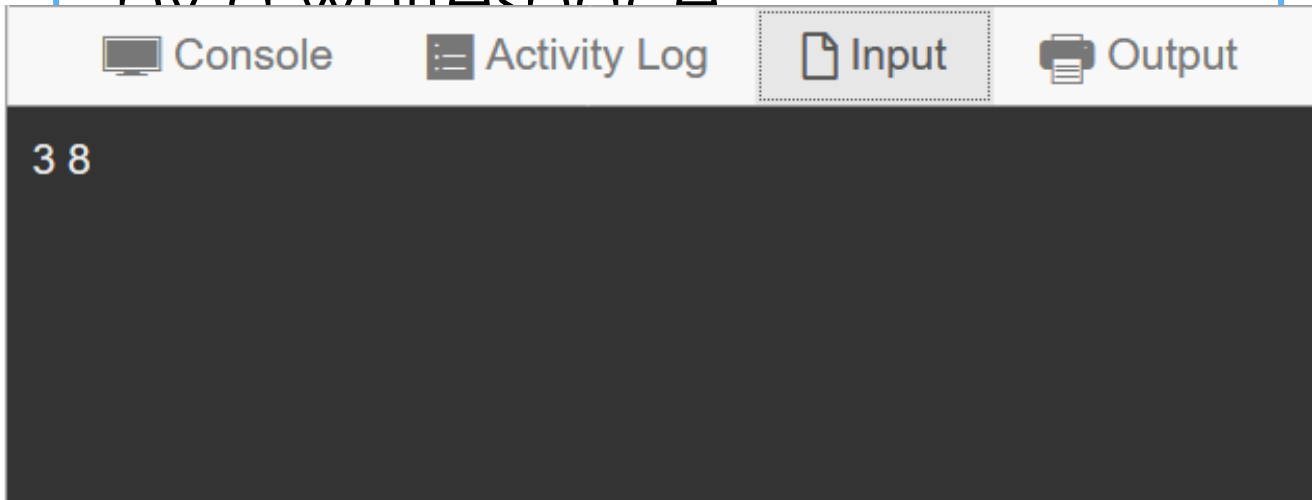

Shorthand for multiple inputs

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```
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int main(){
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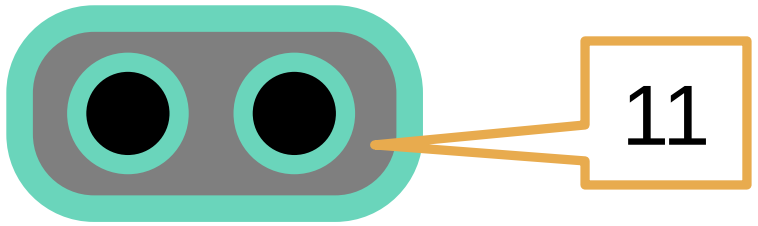
printf("%d", a + b);
return 0;
}
```

3 → a

8 → b

11



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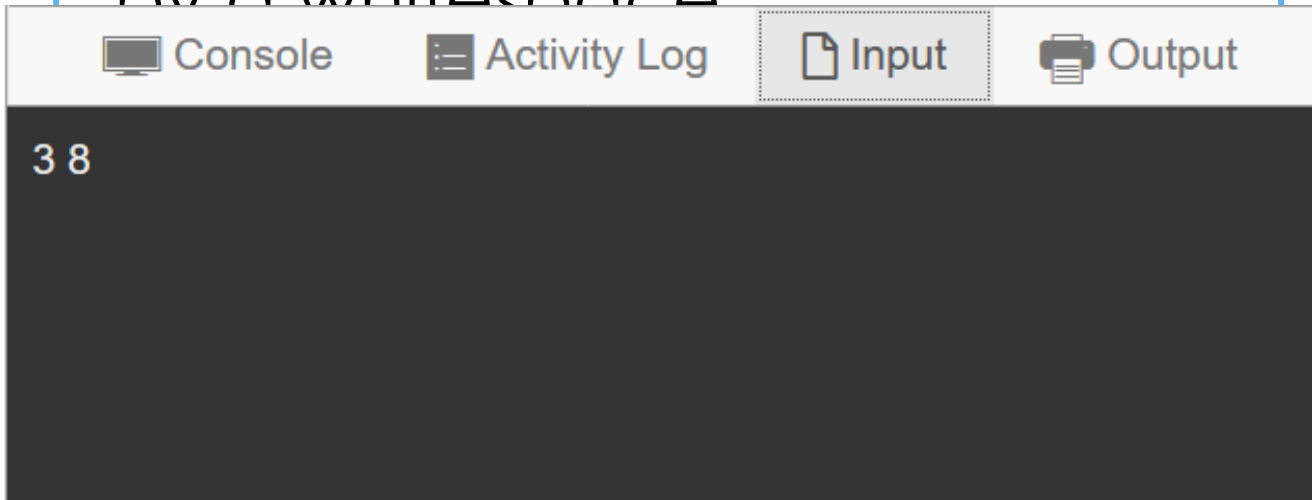

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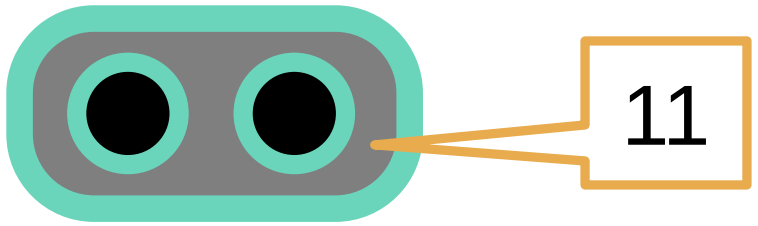
3 a 8 b 11



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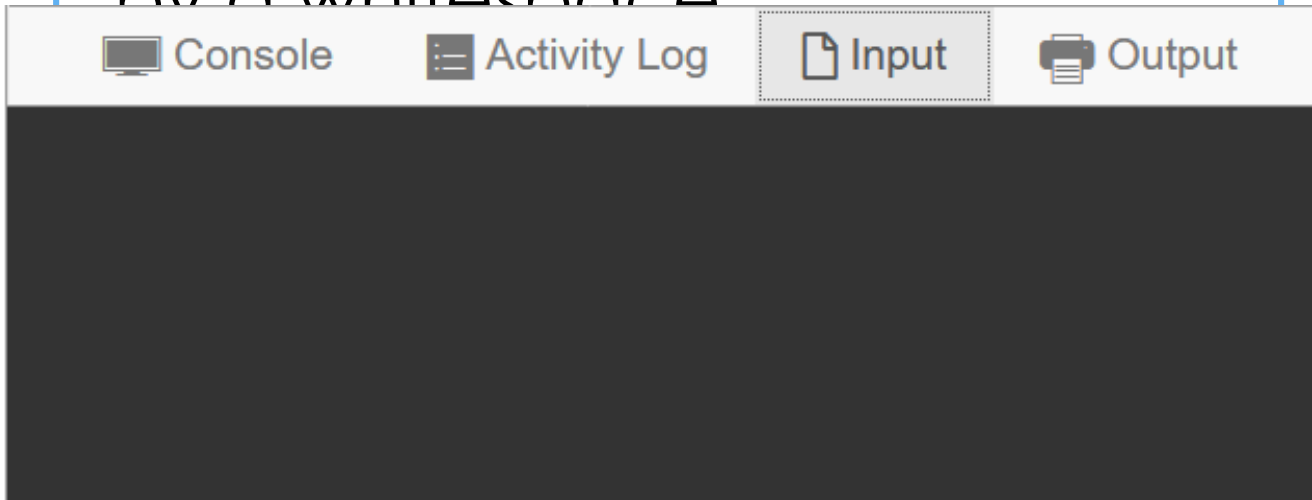

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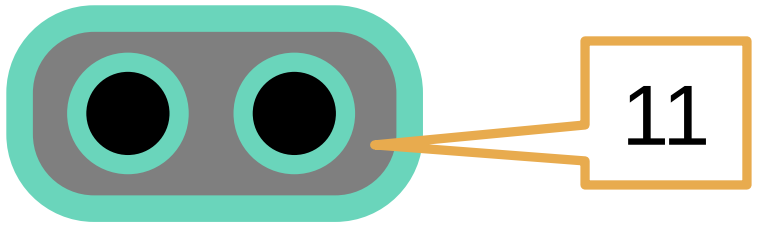
printf("%d", a + b);
return 0;
}
```

3 a 8 b

11



11

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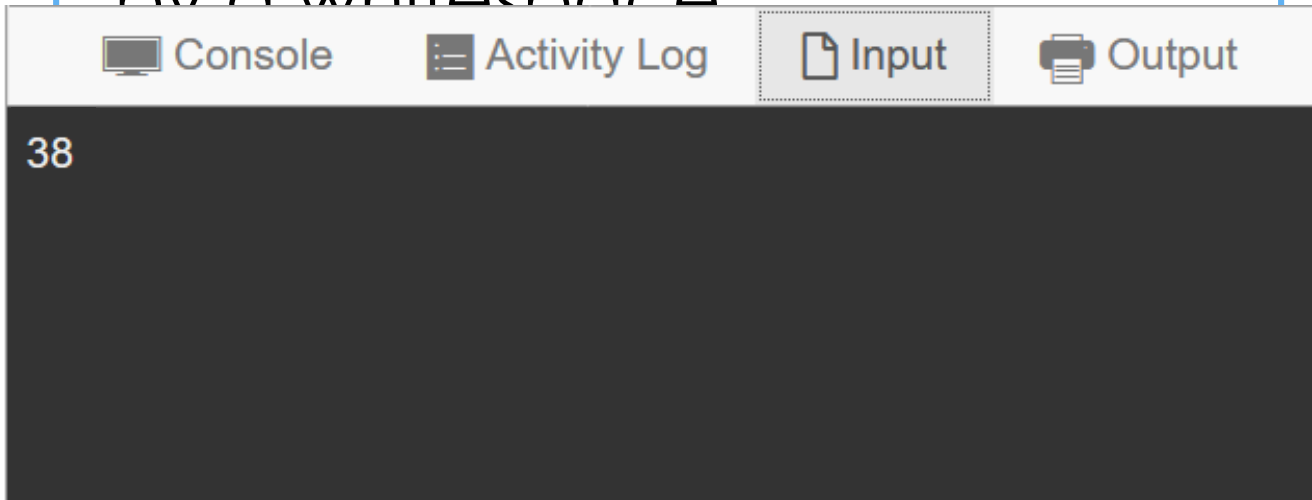


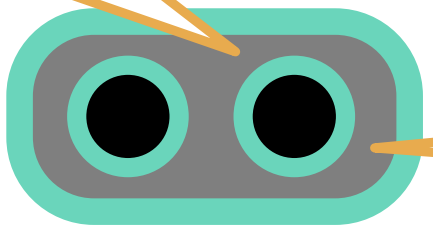
Shorthand for multiple inputs

HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
                    &a, &b);
                    b);
return 0;
}
```

3 a 8 b 11

You entered only one integer



11

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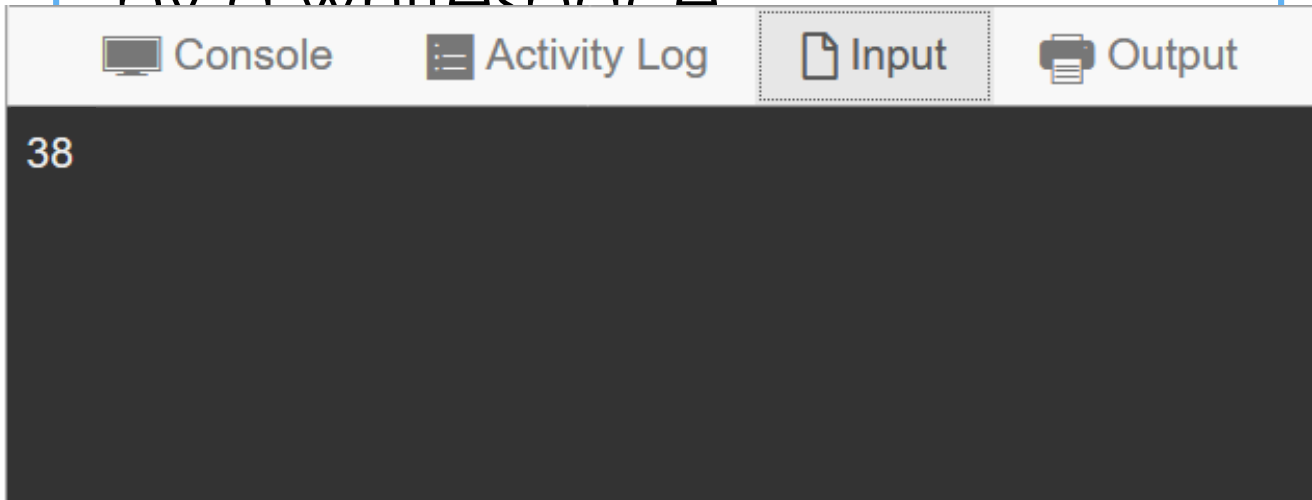

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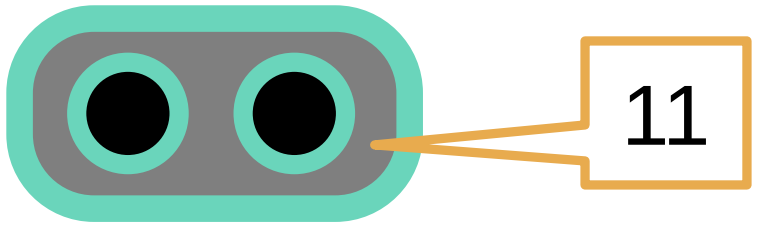
printf("%d", a + b);
return 0;
}
```

3 → a

8 → b

11



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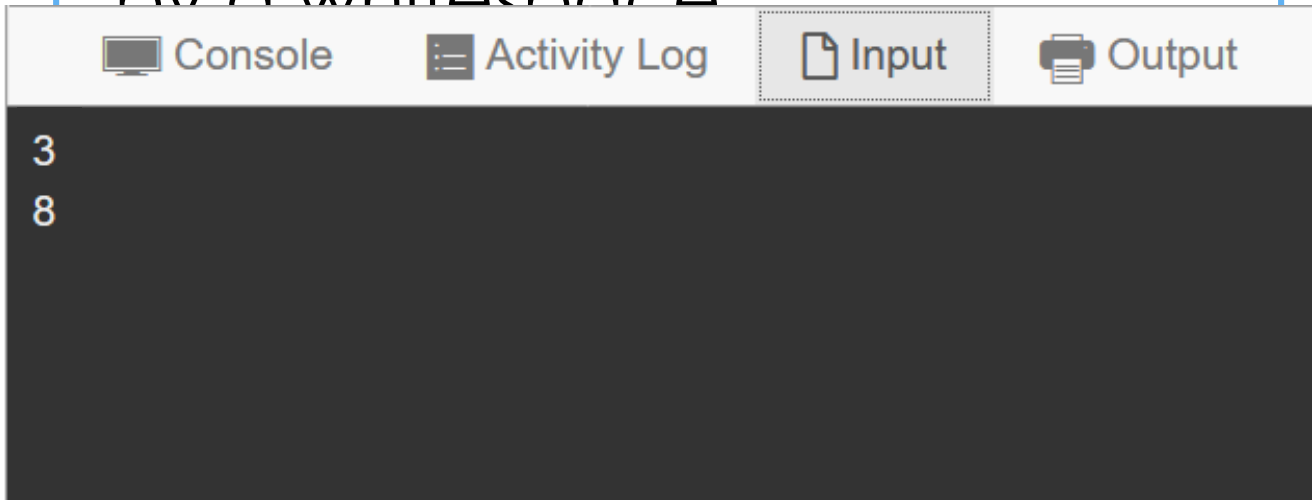

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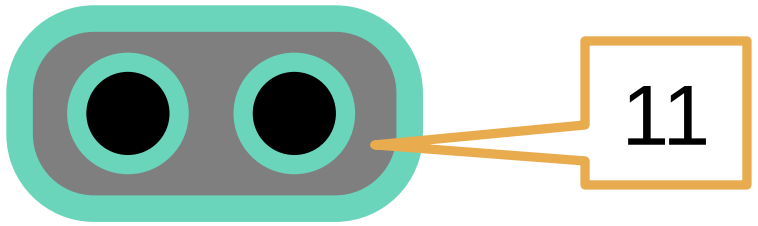
```

3 a 8 b 11



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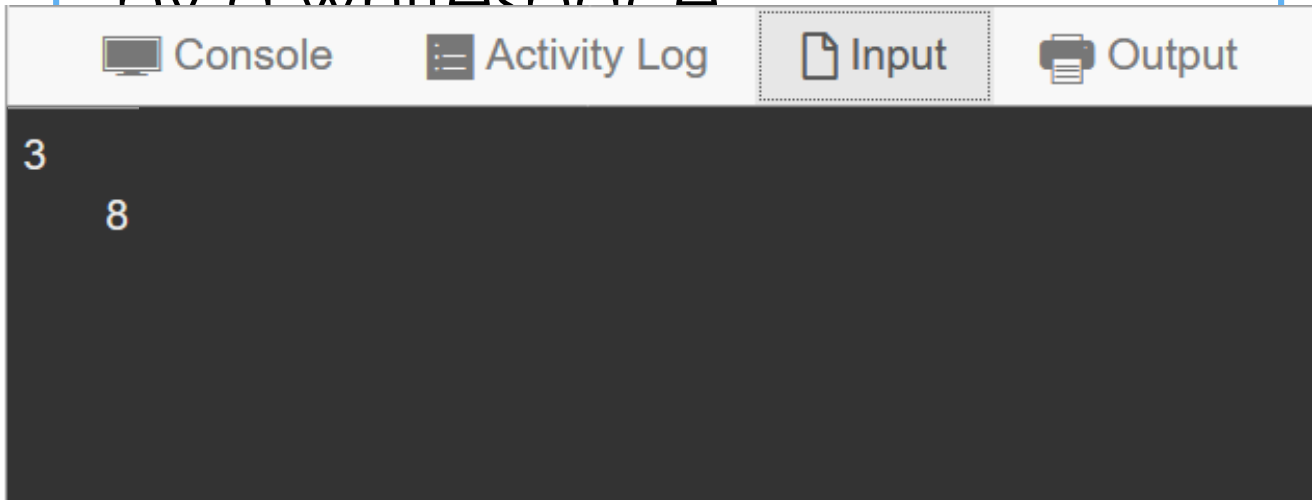

Shorthand for multiple inputs

HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
                d", &a, &b);
                + b);
return 0;
}
```

3 8

a b

All look the same to me

11

11

HOW WE USUALLY SPEAK TO A HUMAN

Do you speak English?

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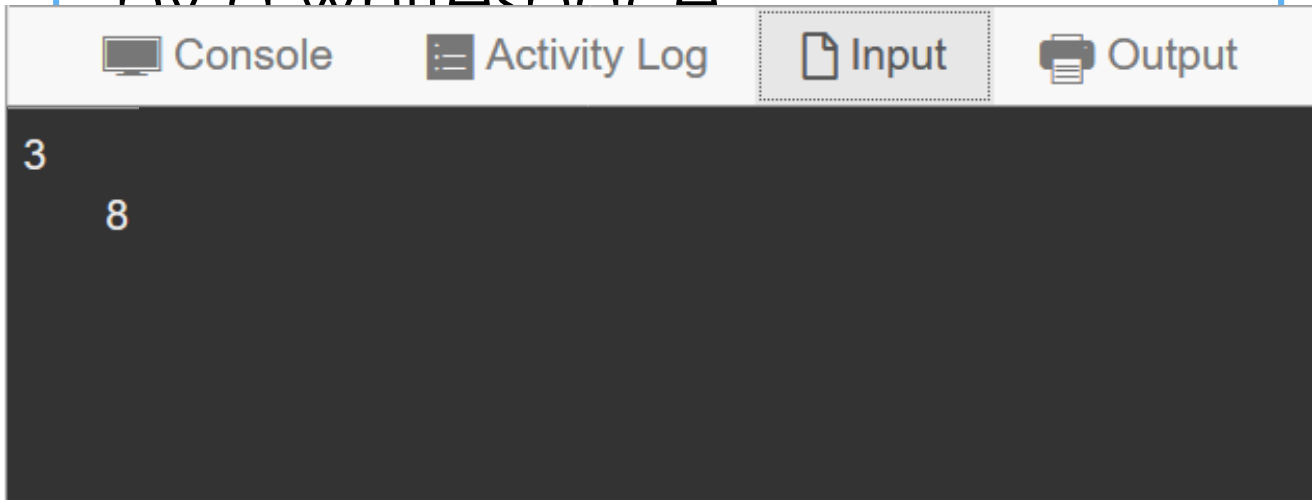
Ask me for values of a and b. I will give both values separated by a whitespace



Shorthand for multiple inputs

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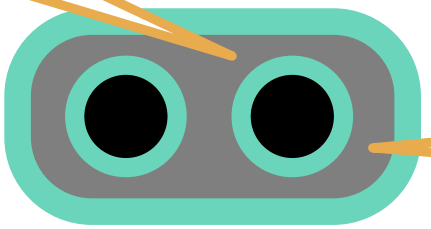
                + b);
return 0;
}
```

3 8

a b

11

All look the same to me



11

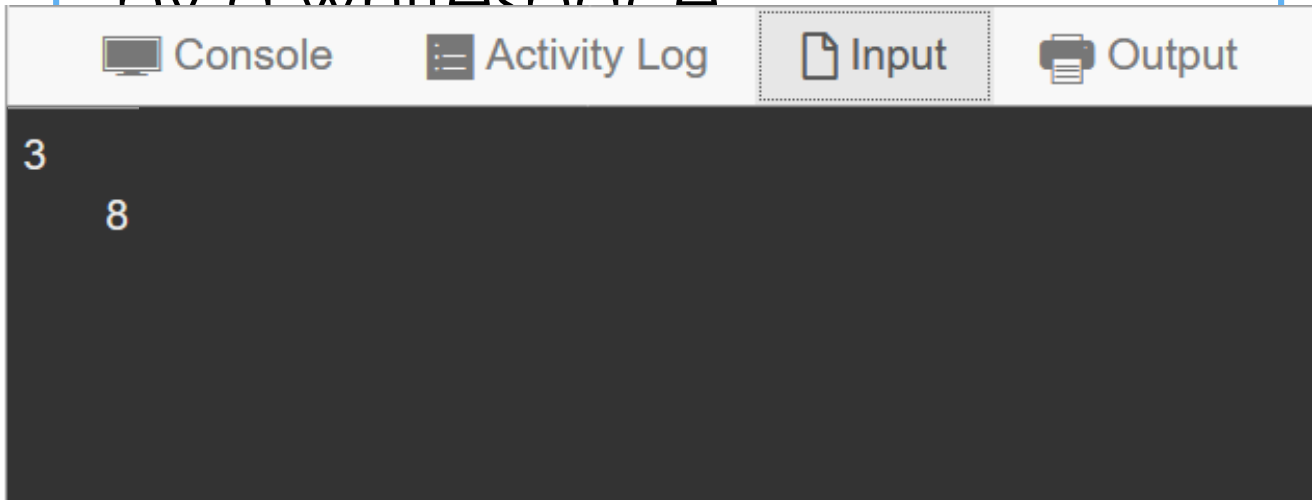
HOW WE USUALLY SPEAK TO A

Do you speak English?

Hello

a, b are two variables.

Ask me for values of a and b. I will give both values separated by a whitespace



Shorthand for multiple inputs

HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
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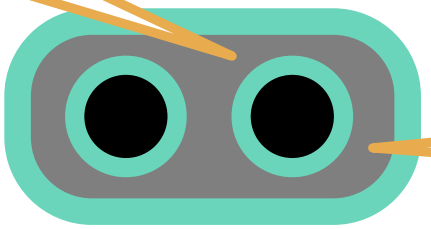
                + b);
return 0;
}
```

3 8

a b

11

All look the same to me



11

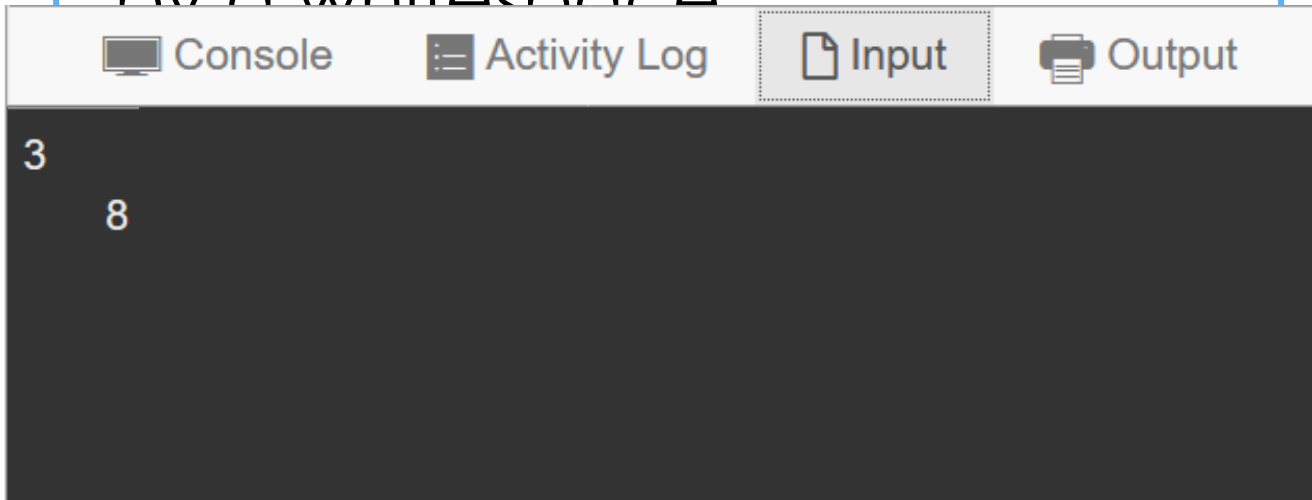
HOW WE USUA

Do you speak English?

Hello

a, b are two variables.

Ask me for values of a and b. I will give both values separated by a whitespace



Shorthand for multiple inputs

Help!!!

HOW WE MUST SPEAK TO MR. COMPILER

```
#include <stdio.h>
int main(){
int a, b;
d", &a, &b);
 + b);
return 0;
}
```

3 → a

8 → b

11

All look the same to me

11

Okay okay

HOW WE USUA

Do you speak English?

Hello

a, b are two variables.

Ask me for values of a and b. I will give both values separated by a whitespace

Console | Activity Log | Input | Output

```
3
8
```

What is going on with scanf?

What is going on with scanf?

Remember Mr. C likes to be told beforehand what all we are going to ask him to do!

What is going on with scanf?

Remember Mr. C likes to be told beforehand what all we are going to ask him to do!

Scanf follows this exact same rule while telling Mr. C how to read

What is going on with scanf?

HOW WE USUALLY SPEAK TO A HUMAN

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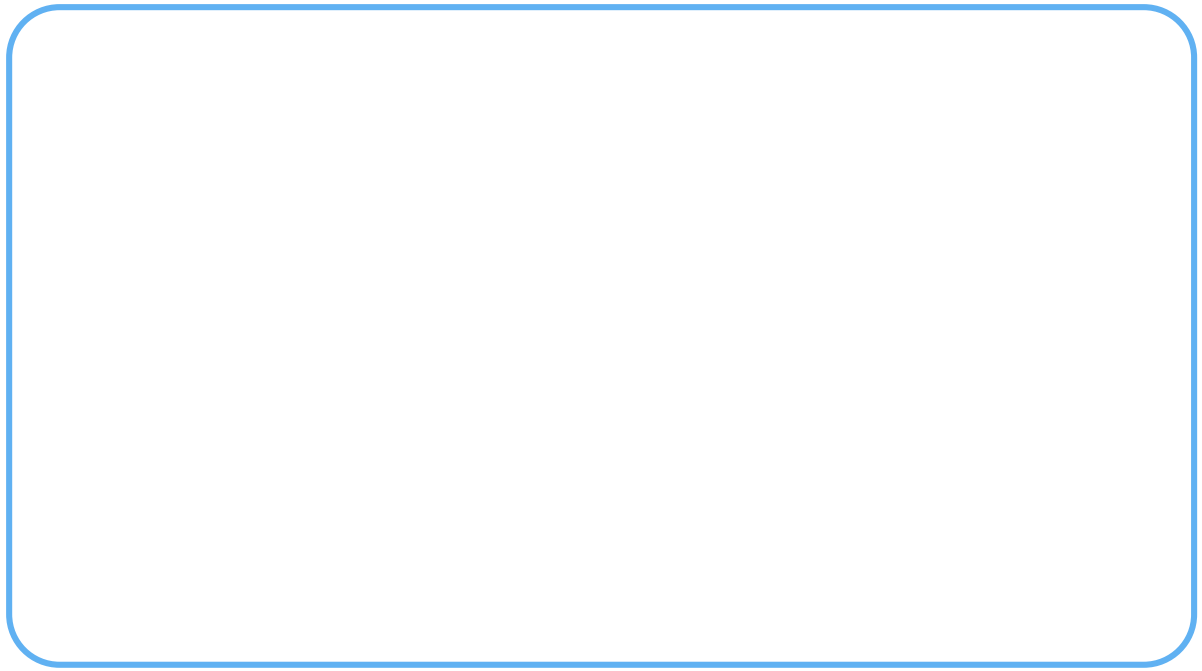
HOW WE USUALLY SPEAK TO A HUMAN



Remember Mr. C likes to be told beforehand what all we are going to ask him to do!

Scanf follows this exact same rule while telling Mr. C how to read

What is going on with scanf?

HOW WE USUALLY SPEAK TO A HUMAN

Please read one integer. Ignore all whitespace (spaces,tabs,newlines) after that till I write another integer. Read that second integer too.

Remember Mr. C likes to be told beforehand what all we are going to ask him to do!

Scanf follows this exact same rule while telling Mr. C how to read

What is going on with scanf?

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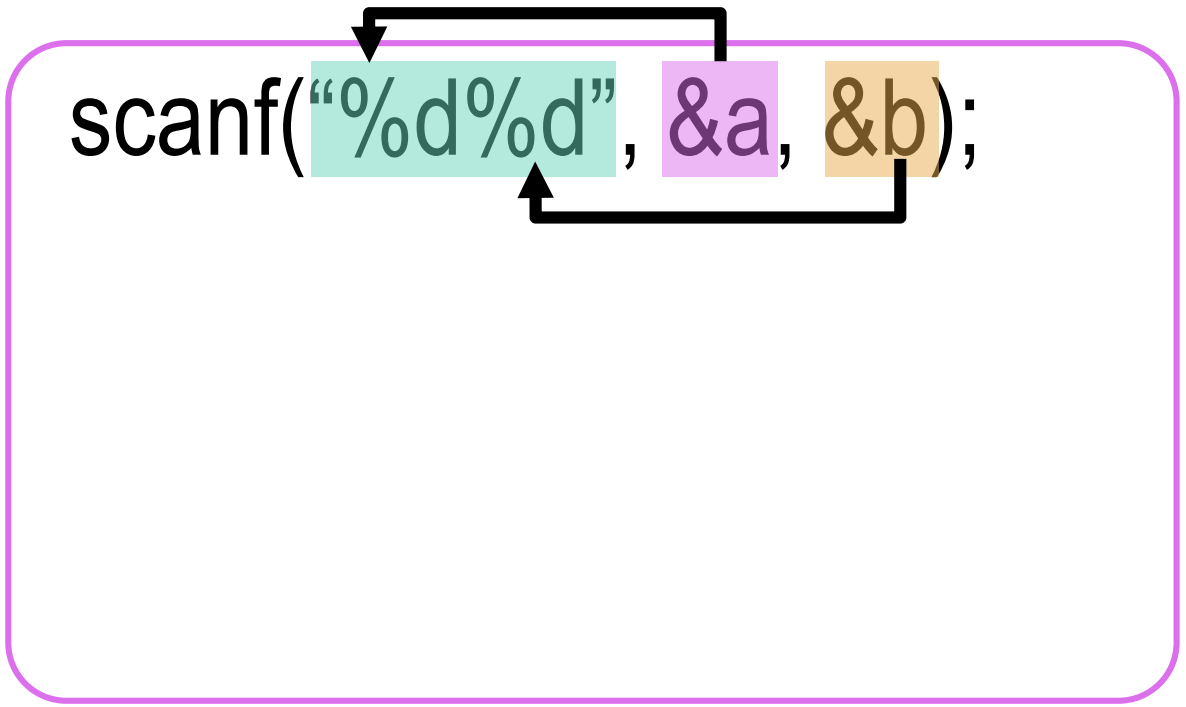

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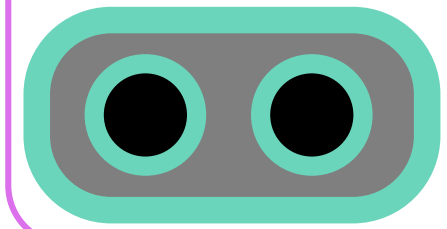

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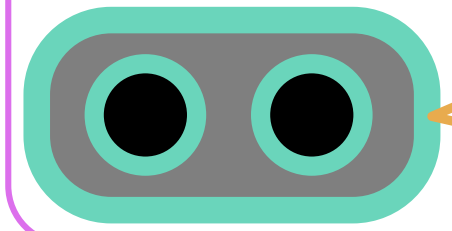

Format string tells me **how** you will write things, and then I am told **where** to store what I have read

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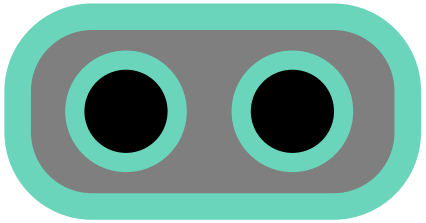

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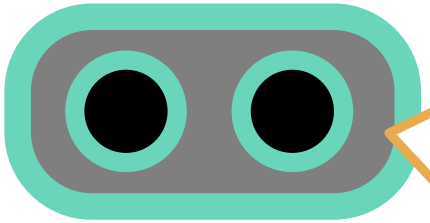

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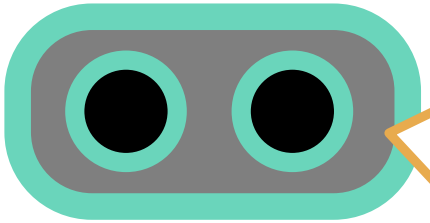

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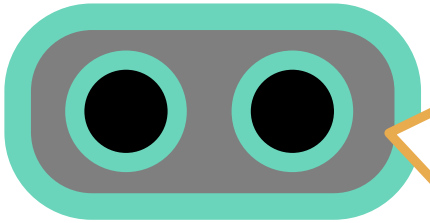

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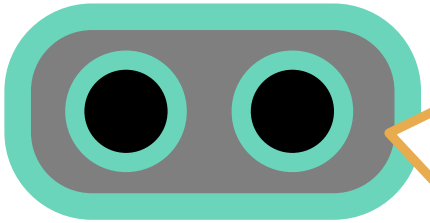

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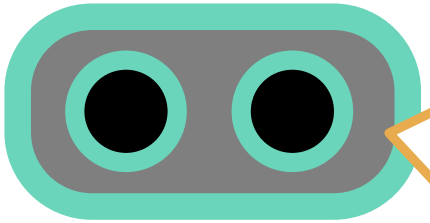

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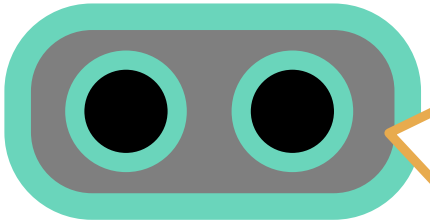

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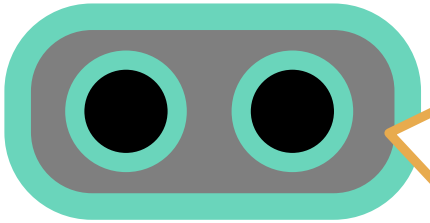

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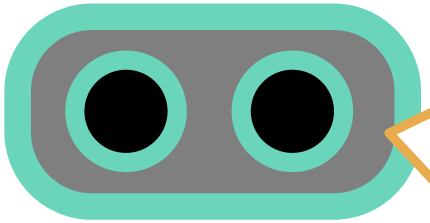

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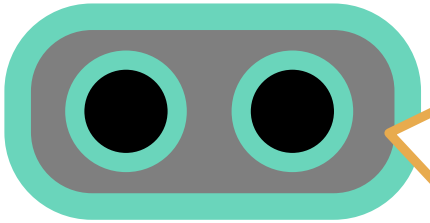

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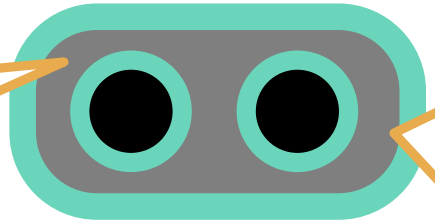
My advice to you is to take input one at a time in the beginning ☺ Try out acrobatics in free time



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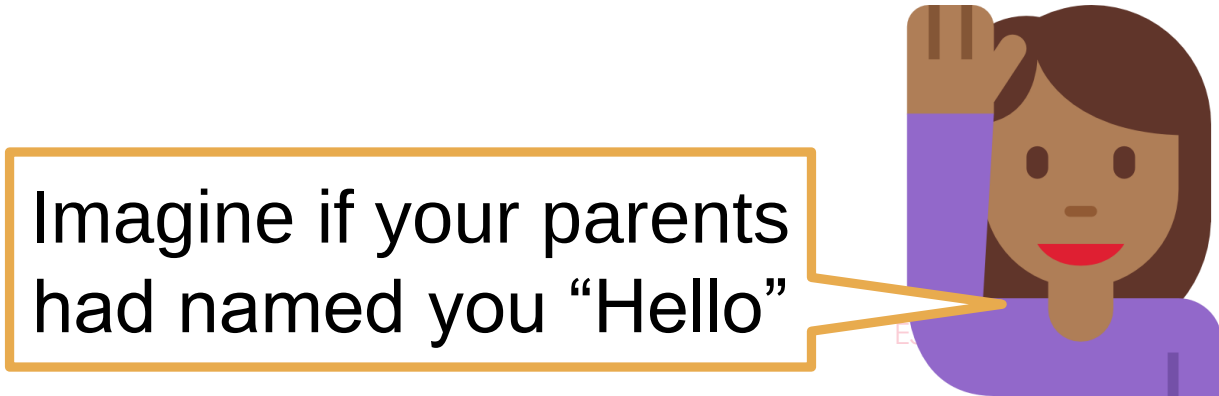

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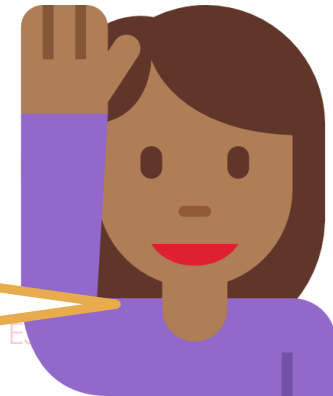

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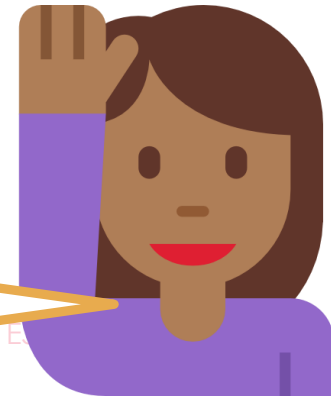

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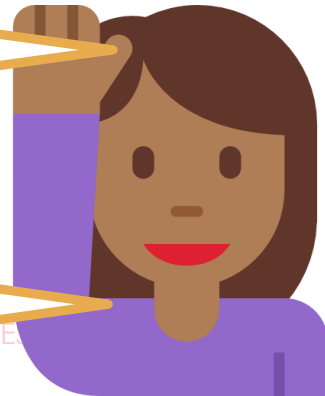

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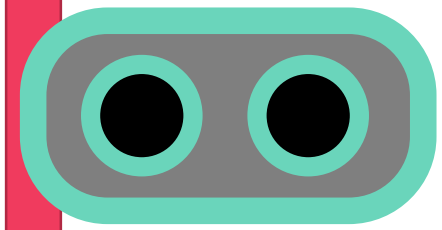

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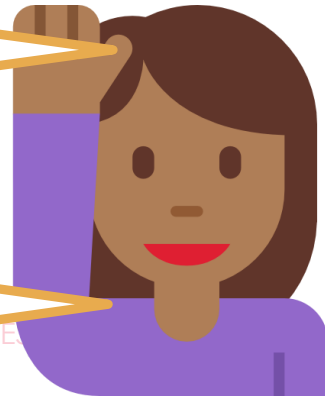

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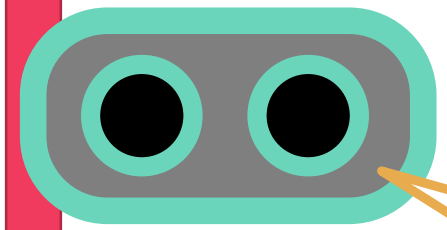

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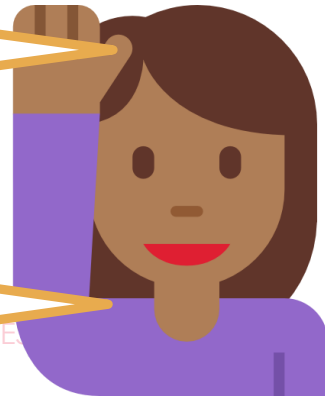

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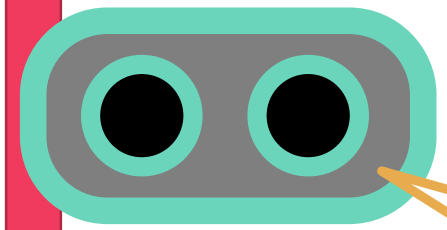

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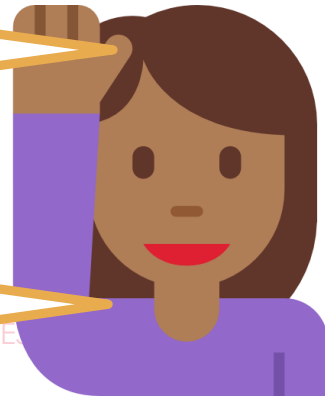

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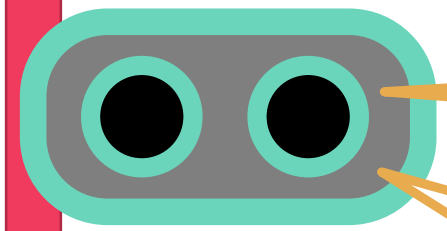

Cannot use reserved keywords as variable names

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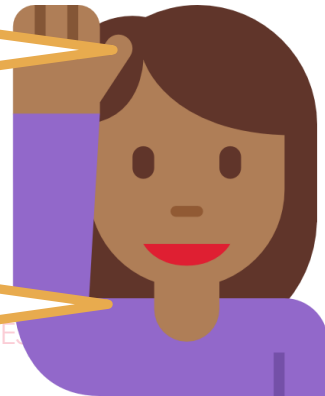

Reserved Keywords

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Will soon see use for long, float

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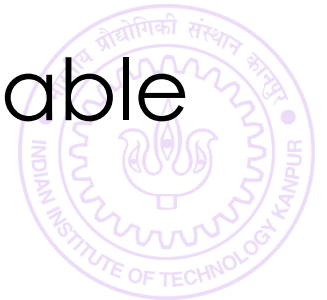
auto, break, case, char, const, continue, default, do, double, else, enum, extern, float, for, goto, if, int, long, register, return, short, signed, sizeof, static, struct, switch, typedef, union, unsigned, void, volatile, while

Prutor shows keywords in a different color ☺

Have already seen int and return in use

Will soon see use for long, float

By the end of course, you will become very comfortable with most of these keywords ☺



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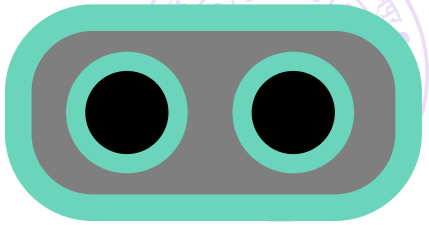

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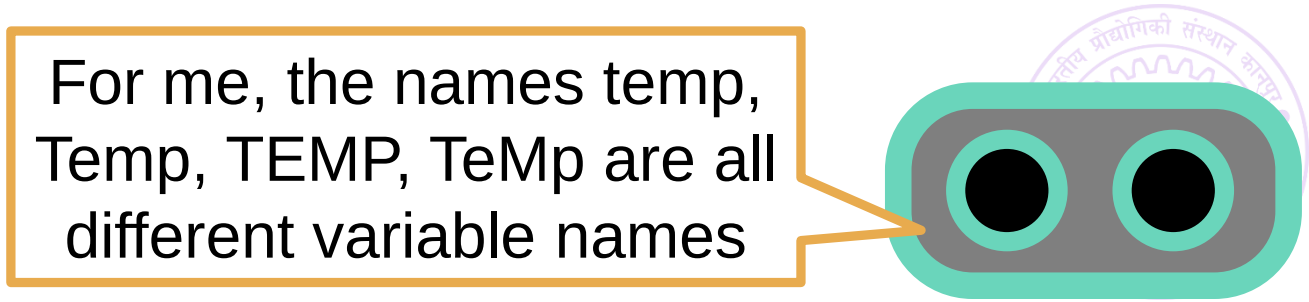

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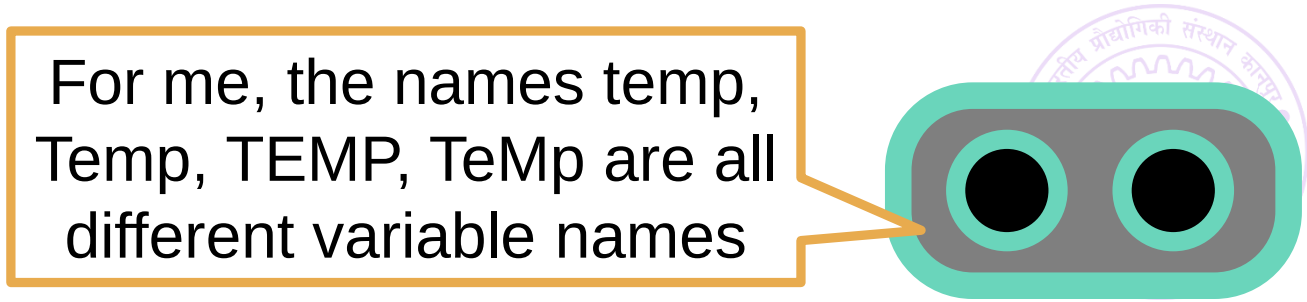

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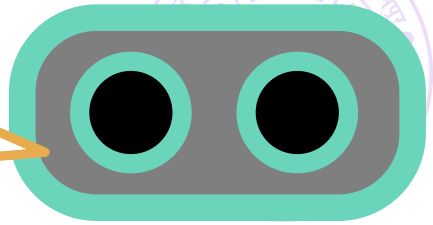

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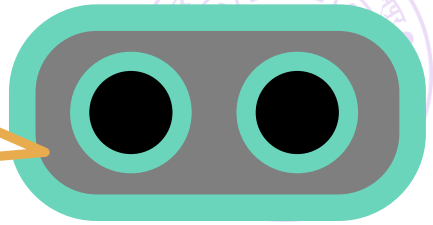

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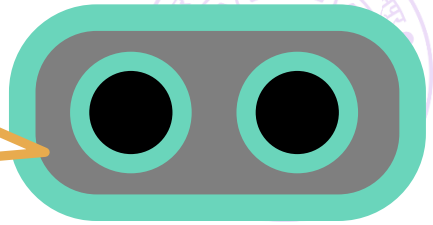

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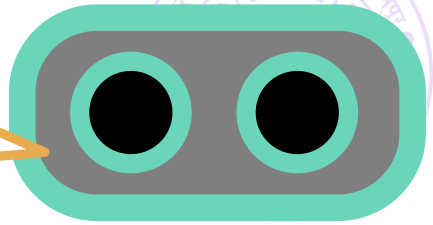

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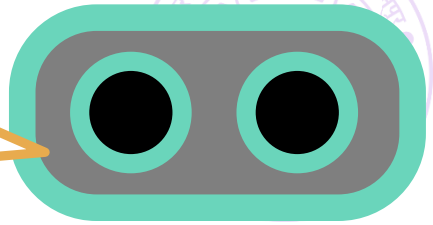

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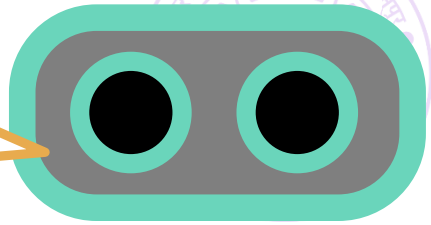

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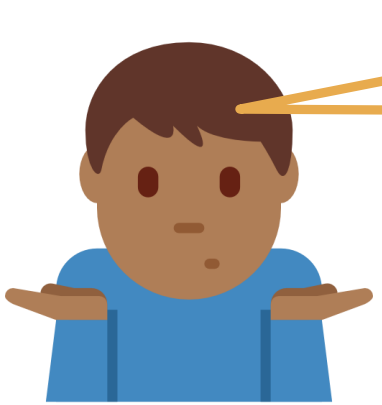

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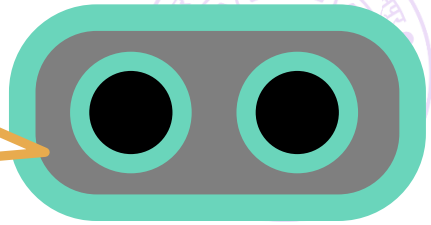

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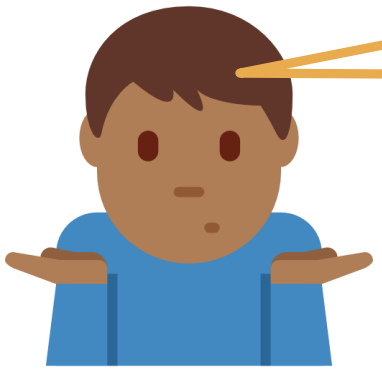

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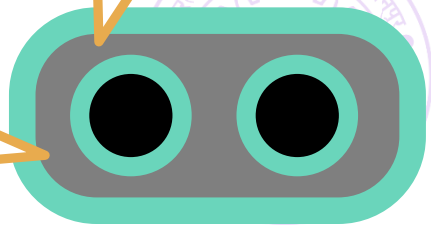

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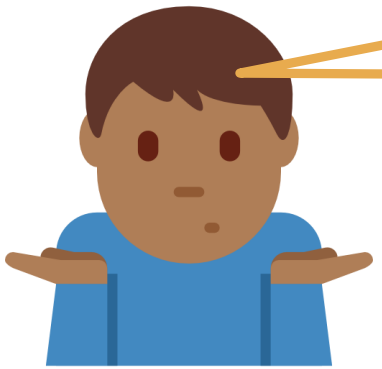

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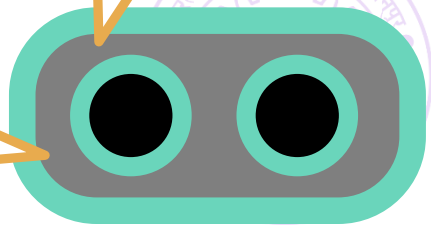

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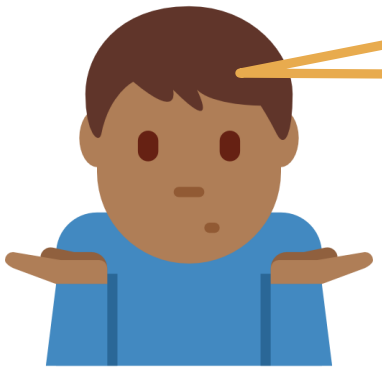

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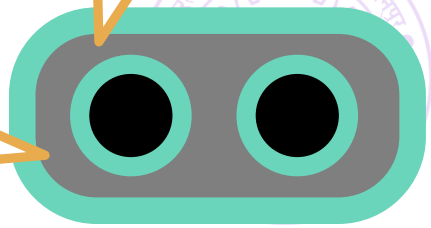

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tmp, iter, var, fun, ref

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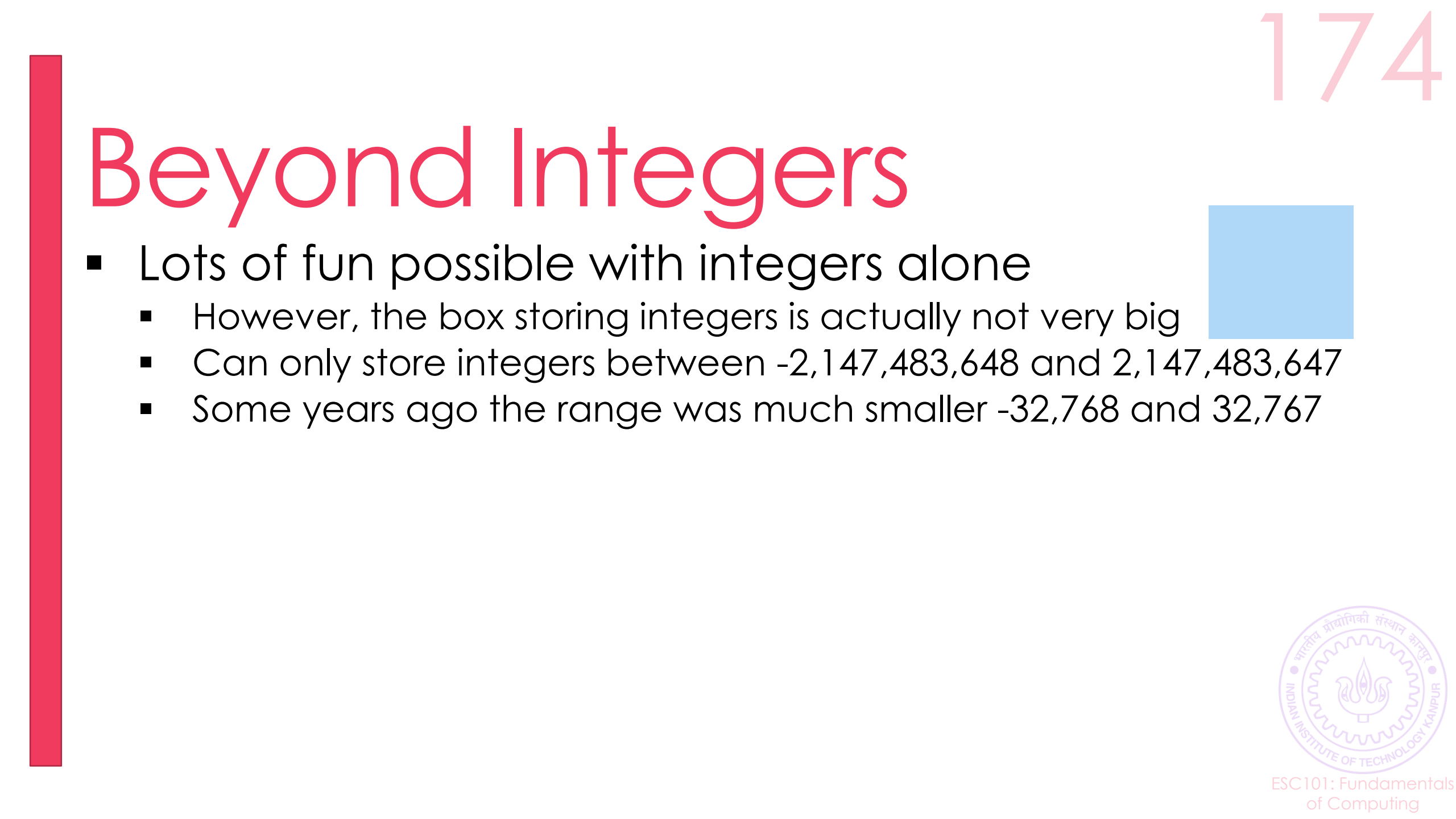

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Next class ☺

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Very large range 3.4e+38

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Very large range 3.4e+38

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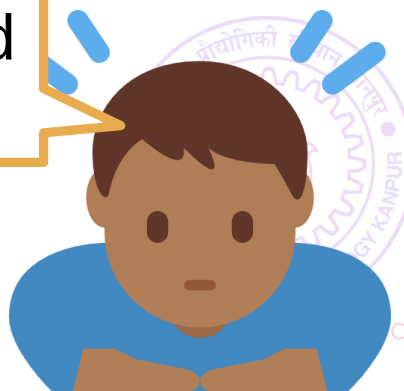

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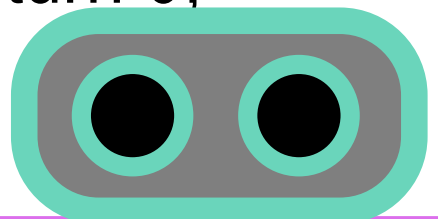

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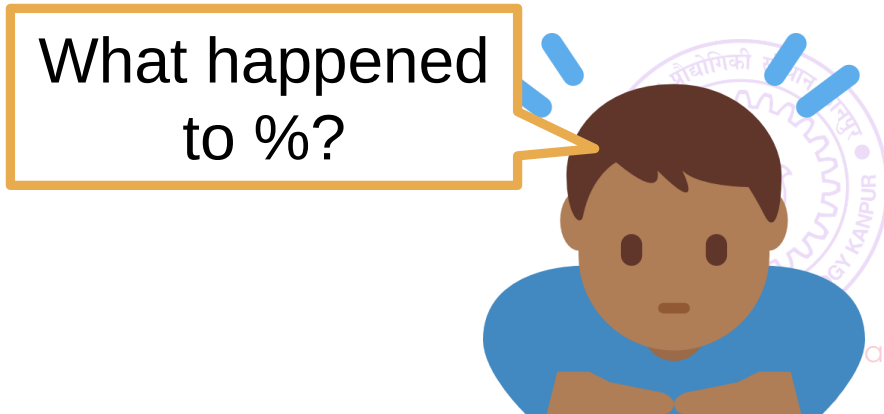

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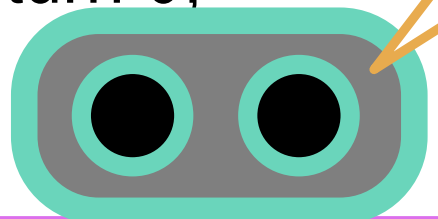

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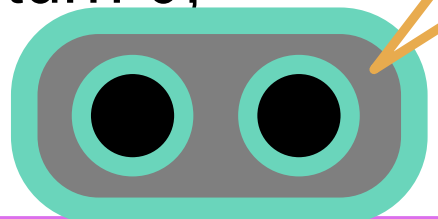

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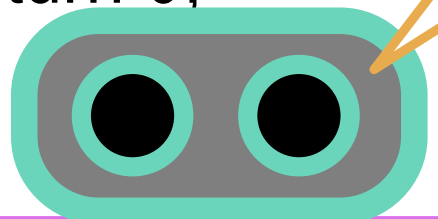

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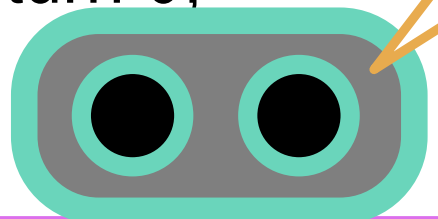

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Try them out on Prutor

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