

# School Nova Computer Science



Operations in Python. User input. Handling errors.  
First look at while loop.

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# Arithmetic operators



Addition	+	
Subtraction	-	
Multiplication	*	
Division	/	
Floor division	//	17 // 5 (returns 3, removes decimal)
Modulus:	%	17 % 5 (returns 2, remainder)
Exponent:	**	2 ** 3 (returns 8, 2 to the power of 3)

# Comparison operators



Operator	General Form	Returns <b>True</b>	Returns <b>False</b>
<code>==</code>	<code>a == b</code>	<code>4 == 2 * 2</code>	<code>4 == 3</code>
<code>!=</code>	<code>a != b</code>	<code>4 != 3</code>	<code>4 != 2 * 2</code>
<code>&gt;</code>	<code>a &gt; b</code>	<code>4 &gt; 3</code>	<code>3 &gt; 4</code>
<code>&lt;</code>	<code>a &lt; b</code>	<code>3 &lt; 4</code>	<code>4 &lt; 3</code>
<code>&gt;=</code>	<code>a &gt;= b</code>	<code>4 &gt;= 4</code>	<code>4 &gt;= 5</code>
<code>&lt;=</code>	<code>a &lt;= b</code>	<code>4 &lt;= 4</code>	<code>4 &lt;= 3</code>

# Logical operators



**and** True if both arguments are true

x and y

**or** True if either of the arguments is true

x or y

**not** True if the argument is false

not x

*Examples (=> Python output)*

False and True => False

False or True => True

not True => False

not False => True

1 < 2 and 1 == 1 => True

1 < 2 and 1 == 2 => False

1 < 2 or 2 < 1 => True

1 > 2 or 2 < 1 => False

not 2 > 1 => False

not 1 > 2 => True

# print() and f-strings



```
# f-strings were first implemented in Python 3.6
```

```
name, age = "Sonya", 12
```

```
print(f"Meet {name}. She is {age} years old.")
```

```
print(f"Meet {name}. " \
```

```
    f"She is {age} years old.")
```

```
print(f"Meet {name}. \nShe is {age} years old.")
```

# Getting information from user



```
name = input("What's your name? ")
```

```
age = input("What is your age? ")
```

Notice that *age* is a string! You can convert it to an integer data type:

```
age = int(input("What is your age? "))
```

```
print(f"A person half your age would be {age/2} years old")
```

try:



Run this code

except:



Execute this code when  
there is an exception

else:



No exceptions? Run this  
code.

finally:



Always run this code.



# Detecting errors

# This code identifies if the input was incorrect (not an integer)

```
age = input("What is your age? ")
```

```
try:
```

```
    age = int(age)
```

```
except:
```

```
    print("Incorrect input")
```

```
else:
```

```
    print(f"A person half your age would be {age/2} years old")
```

```
finally:
```

```
    print("Have a good day!")
```



# Handling errors



# This code asks the user for an input until an integer is entered

**while True:**

```
    age = input("What is your age? ")
```

```
    try:
```

```
        age = int(age)
```

```
    except:
```

```
        print("Incorrect input")
```

```
        continue
```

```
    else:
```

```
        break
```

```
print(f"A person half your age would be {age/2} years old")
```

# Alternative code



# This code asks the user for an input until an integer is entered

```
age = 0
```

```
while age == 0:
```

```
    age = input("What is your age? ")
```

```
    try:
```

```
        age = int(age)
```

```
    except:
```

```
        print("Incorrect input")
```

```
        age = 0
```

```
print(f"A person half your age would be {age/2} years old")
```