

Channel export

Find the displacement of an object between the fourth and sixth second from it's start, if the velocity of the object at time, t is

$$v = \frac{t^2 + 1}{(t^3 + 3t)^2}$$

After calculating the displacement, export its value through the channel.

Solution:

We can calculate the displacement if we evaluate

$$v := (t^2 + 1) / (t^3 + 3t)^2$$

$$x := \int_4^6 v \, dt$$

$$x = 0.00296$$

The displacement of the object from time, $t = 4$ to $t = 6$ is 0.00296. Now, we export this value through channel.

```
ch := channel create("example" , "w")  
channel write(ch , x)
```



Create a Channel object and a channel write combination

Channel import

Find the average value of $y(3y^2-1)^3$ in the interval which's lower boundary is the value that we are going to import from the channel and the upper boundary is 1.2.

Solution:

The average value of a function, $f(x)$ in the region $[a, b]$ is given by:

$$\text{Average} = \frac{\int_a^b f(x) dx}{b-a}$$

Let's first import the value from the channel to the lower boundary.

channels table() =

ID	Name	IP Address	Port	Origin	Source Name	Direction
0	"example"	"127.0.0.1"	1805	"example"	"Value"	"Readable"

```
conn := channel connect("127.0.0.1" , 1805)
```

```
on event(conn , fn( ))
```

```
  a := 0
```

```
fn( )
```

```
{
  1 a = channel read(conn , false)
}
```

```
  b := 1.2
```

```
  v1 := y (3 y2 - 1)3
```

```
  Average := ( ∫ab v1 dy ) / (b-a)
```

```
  Average = 4.184
```

Channel connects the object and the channel read combination from which we have imported the value to variable, a



So the average value of the function is 4.184.