

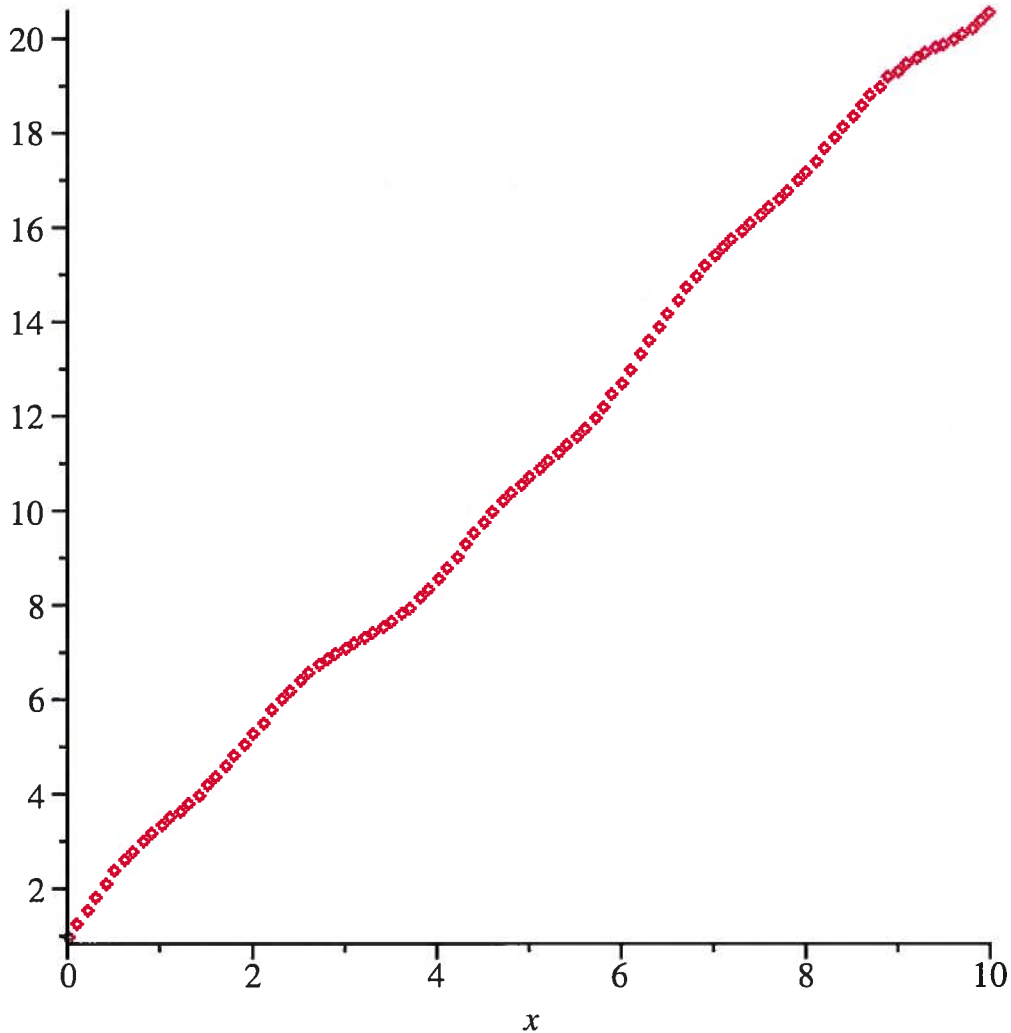
```
# Dylan Zwick
# Maple Project 3 Example Writeup
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```
with(LinearAlgebra) :
with(ArrayTools) :
```

```
datadir := "/u/ma/zwick/Teaching/2270_Fall_12/Computer/Project3/";
          "/u/ma/zwick/Teaching/2270_Fall_12/Computer/Project3/"
```

(1)

```
DataSet := readdata(cat(datadir, "DataSet.txt"), 2) :
plot(DataSet, x = 0..10, color = red, style = point);
```



```
M := Matrix(DataSet);
```

```
101 x 2 Matrix
Data Type: anything
Storage: rectangular
Order: Fortran_order
```

(2)

```
b := M.(0, 1);
```

$$\left[\begin{array}{l} 1 \dots 101 \text{ Vector}_{\text{column}} \\ \text{Data Type: float}_8 \\ \text{Storage: rectangular} \\ \text{Order: Fortran_order} \end{array} \right] \quad (3)$$

$A := \langle \text{Vector}(\text{column}, \text{Size}(M)(1), 1) | M.\langle 1, 0 \rangle \rangle;$

$$\left[\begin{array}{l} 101 \times 2 \text{ Matrix} \\ \text{Data Type: anything} \\ \text{Storage: rectangular} \\ \text{Order: Fortran_order} \end{array} \right] \quad (4)$$

$T := \text{Transpose}(A);$

$$\left[\begin{array}{l} 2 \times 101 \text{ Matrix} \\ \text{Data Type: anything} \\ \text{Storage: rectangular} \\ \text{Order: Fortran_order} \end{array} \right] \quad (5)$$

$p := (TA)^{-1}.T.b;$

$$\left[\begin{array}{l} 1.13724688681771635 \\ 1.98780239443843776 \end{array} \right] \quad (6)$$

$y := p(1) + p(2)x;$

$$1.13724688681771635 + 1.98780239443843776 x \quad (7)$$

$\text{plot}([\text{DataSet}, y], x = 0 \dots 10, \text{color} = [\text{red}, \text{blue}], \text{style} = [\text{point}, \text{line}]);$

