The Story

 Herman the turtle has to cross a busy highway to meet a friend for lunch. He patiently waits for a break in the traffic before he begins to cross. He begins to move at constant and leisurely pace. After ten seconds have passed by, Herman has covered a distance of ten meters. At this time Herman notices an approaching vehicle and spins around to commence evasive action. After traveling two meters in three seconds it dons on him that he is moving too slow to escape an unfortunate demise, so he uses his shell-sliding ability to accelerate for two seconds until reaching a safe distance two meters away. After narrowly surviving the passing car Herman is exhausted and takes a five second break, but then resumes his trek. Frightened and alert Herman travels ten meters in ten more seconds. End in sight, he gradually slows down. It takes him ten seconds to cross the last five meters of the highway. Finally Herman has reached the other side and looks for his friend, only to realize that he crossed the wrong road.

The Graph I



The Graph II



The Data Column

(time on the far left and positions in the other columns)

0 0.179 0.007 -0.071

0.05 0.179 0.004 -0.067

0.1 0.179 -0 -0.054

0.15 0.179 -0.002 -0.035

0.2 0.179 -0.004 -0.013

0.25 0.179 -0.004 0.03

0.3 0.179 -0.001 0.075

0.35 0.179 0.006 0.062

0.4 0.18 0.007 0.017

0.45 0.179 0.005 0.013

0.5 0.18 0.009 -0.001

0.55 0.18 0.009 -0.078

0.6 0.181 -0.004 -0.064

0.65 0.179 -0.005 0.071

0.7 0.18 0.01 0.085

0.75 0.181 0.011 -0.008

0.8 0.182 0.004 0.005

0.85 0.181 0.002 0.199

0.9 0.181 0.021 0.471

0.95 0.183 0.048 0.747

1 0.185 0.1 0.917

1.05 0.193 0.154 0.81

1.1 0.201 0.184 0.606

1.15 0.211 0.211 0.448

1.2 0.223 0.231 0.29

1.25 0.235 0.235 0.25

1.3 0.246 0.247 0.37

1.35 0.259 0.274 0.464

1.4 0.273 0.297 0.493

1.45 0.289 0.322 0.526

1.5 0.305 0.351 0.52

1.55 0.324 0.377 0.444

1.6 0.343 0.398 0.304

1.65 0.364 0.412 0.078

1.7 0.385 0.408 -0.176

1.75 0.405 0.389 -0.321

1.8 0.424 0.369 -0.34

1.85 0.442 0.355 -0.355

1.9 0.46 0.336 -0.404

1.95 0.476 0.312 -0.404

2 0.491 0.292 -0.33

2.05 0.505 0.279 -0.244

2.1 0.519 0.27 -0.194

2.15 0.532 0.26 -0.15

2.2 0.545 0.253 -0.079

2.25 0.557 0.252 0.003

2.3 0.57 0.254 0.075

2.35 0.582 0.259 0.146

2.4 0.595 0.268 0.215

2.45 0.609 0.283 0.233

2.5 0.624 0.296 0.166

2.55 0.639 0.301 0.06

2.6 0.654 0.3 -0.016

2.65 0.669 0.296 -0.027

2.7 0.683 0.295 0.017

2.75 0.698 0.298 0.062

2.8 0.713 0.303 0.056

2.85 0.729 0.308 -0.037

2.9 0.744 0.303 -0.188

2.95 0.759 0.288 -0.316

3 0.773 0.268 -0.371

3.05 0.786 0.247 -0.353

3.1 0.798 0.231 -0.3

3.15 0.809 0.218 -0.243

3.2 0.82 0.206 -0.164

3.25 0.83 0.199 -0.044

3.3 0.839 0.201 0.093

3.35 0.849 0.21 0.204

3.4 0.86 0.223 0.281

3.45 0.871 0.239 0.331

3.5 0.884 0.258 0.322

3.55 0.897 0.275 0.233

3.6 0.912 0.282 0.114

3.65 0.926 0.284 0.023

3.7 0.94 0.284 -0.047

3.75 0.954 0.279 -0.092

3.8 0.968 0.271 -0.064

3.85 0.981 0.27 0.012

3.9 0.995 0.275 0.053

3.95 1.009 0.278 0.058

4 1.023 0.28 0.059

4.05 1.037 0.283 0.055

4.1 1.051 0.287 0.023

4.15 1.066 0.287 -0.039

4.2 1.08 0.283 -0.093

4.25 1.094 0.275 -0.09

4.3 1.107 0.271 -0.036

4.35 1.121 0.272 0.012

4.4 1.135 0.273 0.045

4.45 1.148 0.276 0.075

4.5 1.162 0.282 0.078

4.55 1.177 0.285 0.071

4.6 1.191 0.287 0.123

4.65 1.205 0.295 0.216

4.7 1.22 0.31 0.263

4.75 1.236 0.327 0.198

4.8 1.253 0.334 0.06

4.85 1.27 0.329 -0.015

4.9 1.286 0.33 -0.057

4.95 1.303 0.329 -0.2

5 1.319 0.312 -0.377

5.05 1.334 0.287 -0.456

5.1 1.348 0.26 -0.399

5.15 1.36 0.242 -0.241

5.2 1.372 0.235 -0.069

5.25 1.383 0.241 -0.013

5.3 1.396 0.24 -0.052

5.35 1.407 0.229 0.027

5.4 1.418 0.236 0.21

5.45 1.43 0.254 0.332

5.5 1.444 0.273 0.379

5.55 1.458 0.294 0.36

5.6 1.473 0.314 0.251

5.65 1.49 0.32 0.131

5.7 1.505 0.324 0.041

5.75 1.522 0.326 -0.094

5.8 1.539 0.316 -0.24

5.85 1.554 0.299 -0.309

5.9 1.569 0.28 -0.27

5.95 1.582 0.268 -0.178

6 1.595 0.269 -0.244

6.05 1.609 0.259 -0.62

6.1 1.622 0.215 -1.182

6.15 1.632 0.138 -1.707

6.2 1.637 0.038 -2.074

6.25 1.636 -0.076 -2.257

6.3 1.63 -0.2 -2.187

6.35 1.615 -0.305 -1.915

6.4 1.598 -0.387 -1.676

6.45 1.577 -0.47 -1.462

6.5 1.551 -0.539 -1.163

6.55 1.522 -0.587 -0.854

6.6 1.491 -0.621 -0.599

6.65 1.459 -0.644 -0.398

6.7 1.427 -0.661 -0.212

6.75 1.393 -0.668 0.013

6.8 1.359 -0.656 0.152

6.85 1.327 -0.642 0.084

6.9 1.296 -0.645 -0.044

6.95 1.263 -0.654 -0.035

7 1.23 -0.656 0.141

7.05 1.197 -0.643 0.385

7.1 1.165 -0.613 0.538

7.15 1.135 -0.581 0.531

7.2 1.107 -0.556 0.414

7.25 1.08 -0.539 0.263

7.3 1.054 -0.529 0.115

7.35 1.028 -0.531 0.048

7.4 1 -0.531 0.112

7.45 0.974 -0.521 0.211

7.5 0.948 -0.505 0.229

7.55 0.924 -0.497 0.22

7.6 0.898 -0.488 0.298

7.65 0.875 -0.468 0.403

7.7 0.851 -0.448 0.507

7.75 0.829 -0.416 0.56

7.8 0.81 -0.384 0.404

7.85 0.791 -0.366 0.038

7.9 0.774 -0.359 -0.827

7.95 0.758 -0.45 -1.427

8 0.729 -0.501 -1.455

8.05 0.727 -0.803 1.991

8.1 0.605 -0.367 6.171

8.15 0.681 0.221 3.241

8.2 0.674 0.012 -0.975

8.25 0.673 -0.098 -1.637

8.3 0.661 -0.197 -1.003

8.35 0.65 -0.199 0.029

8.4 0.64 -0.173 0.604

8.45 0.632 -0.125 0.849

8.5 0.628 -0.075 0.788

8.55 0.625 -0.042 0.616

8.6 0.624 -0.018 0.488

8.65 0.623 0.006 0.38

8.7 0.625 0.023 0.24

8.75 0.626 0.03 0.1

8.8 0.628 0.031 0.002

8.85 0.629 0.029 -0.058

8.9 0.631 0.024 -0.081

8.95 0.632 0.018 -0.047

9 0.632 0.019 -0.01

9.05 0.634 0.02 -0.025

9.1 0.635 0.017 -0.05

9.15 0.635 0.013 -0.042

9.2 0.636 0.011 -0.005

9.25 0.636 0.013 0.016

9.3 0.637 0.015 -0.009

9.35 0.638 0.013 -0.048

9.4 0.638 0.009 -0.067

9.45 0.639 0.005 -0.066

9.5 0.639 0.003 -0.064

9.55 0.639 -0.002 -0.051

9.6 0.639 -0.002 -0.04

9.65 0.639 -0.005 -0.041

9.7 0.638 -0.008 -0.018

9.75 0.638 -0.007 0.022

9.8 0.637 -0.004 0.037

9.85 0.637 -0.003 0.032

9.9 0.637 -0.002 0.038

9.95 0.637 0.001 0.047

10 0.637 0.004 0.026

10.05 0.638 0.004 -0.005

10.1 0.638 0.002 -0

10.15 0.638 0.003 0.027

10.2 0.638 0.006 0.034

10.25 0.638 0.008 0.019

10.3 0.639 0.007 0.008

10.35 0.639 0.008 0.005

10.4 0.64 0.009 -0.013

10.45 0.64 0.007 -0.046

10.5 0.64 0.003 -0.063

10.55 0.64 0.001 -0.068

10.6 0.641 -0.004 -0.068

10.65 0.64 -0.008 -0.038

10.7 0.64 -0.008 0

10.75 0.639 -0.006 0.016

10.8 0.639 -0.006 0.033

10.85 0.638 -0.005 0.077

10.9 0.638 0.001 0.122

10.95 0.638 0.009 0.132

11 0.639 0.016 0.109

11.05 0.64 0.02 0.085

11.1 0.641 0.023 0.081

11.15 0.642 0.028 0.086

11.2 0.644 0.033 0.076

11.25 0.646 0.036 0.065

11.3 0.648 0.038 0.08

11.35 0.649 0.043 0.107

11.4 0.652 0.049 0.125

11.45 0.654 0.055 0.152

11.5 0.657 0.064 0.18

11.55 0.661 0.073 0.212

11.6 0.665 0.084 0.262

11.65 0.669 0.1 0.3

11.7 0.675 0.116 0.312

11.75 0.681 0.131 0.318

11.8 0.688 0.146 0.349

11.85 0.695 0.165 0.391

11.9 0.704 0.188 0.374

11.95 0.714 0.207 0.285

12 0.725 0.217 0.19

12.05 0.736 0.223 0.14

12.1 0.747 0.231 0.095

12.15 0.759 0.233 0.039

12.2 0.771 0.233 0.007

12.25 0.783 0.234 -0.025

12.3 0.794 0.232 -0.08

12.35 0.806 0.225 -0.116

12.4 0.817 0.217 -0.079

12.45 0.827 0.216 -0.003

12.5 0.838 0.218 0.059

12.55 0.849 0.222 0.119

12.6 0.86 0.229 0.181

12.65 0.872 0.24 0.227

12.7 0.884 0.253 0.263

12.75 0.897 0.267 0.295

12.8 0.911 0.282 0.311

12.85 0.925 0.3 0.281

12.9 0.941 0.313 0.205

12.95 0.957 0.319 0.155

13 0.973 0.325 0.17

13.05 0.989 0.337 0.171

13.1 1.007 0.347 0.088

13.15 1.024 0.347 -0.013

13.2 1.042 0.343 -0.061

13.25 1.058 0.337 -0.044

13.3 1.075 0.337 -0.002

13.35 1.092 0.339 0.008

13.4 1.109 0.34 -0.022

13.45 1.126 0.337 -0.075

13.5 1.143 0.334 -0.155

13.55 1.16 0.323 -0.245

13.6 1.175 0.302 -0.203

13.65 1.189 0.298 -0.062

13.7 1.205 0.301 0.01

13.75 1.22 0.3 0.05

13.8 1.235 0.303 0.121

13.85 1.25 0.316 0.136

13.9 1.267 0.32 0.094

13.95 1.282 0.32 0.141

14 1.298 0.331 0.235

14.05 1.315 0.348 0.243

14.1 1.333 0.36 0.154

14.15 1.351 0.365 0.016

14.2 1.37 0.361 -0.106

14.25 1.388 0.35 -0.145

14.3 1.405 0.343 -0.11

14.35 1.422 0.343 -0.132

14.4 1.439 0.335 -0.25

14.45 1.456 0.316 -0.338

14.5 1.471 0.295 -0.303

14.55 1.485 0.282 -0.197

14.6 1.499 0.278 -0.143

14.65 1.513 0.271 -0.145

14.7 1.526 0.262 -0.116

14.75 1.539 0.258 -0.059

14.8 1.552 0.258 -0.024

14.85 1.565 0.256 0.001

14.9 1.577 0.255 0.075

14.95 1.59 0.262 0.184

15 1.603 0.276 0.252

15.05 1.617 0.289 0.271

15.1 1.632 0.305 0.242

15.15 1.648 0.315 0.182

15.2 1.664 0.322 0.152

15.25 1.68 0.327 0.176

15.3 1.696 0.339 0.189

15.35 1.714 0.353 0.077

15.4 1.732 0.349 -0.089

15.45 1.749 0.34 -0.192

15.5 1.766 0.329 -0.251

15.55 1.782 0.312 -0.238

15.6 1.797 0.3 -0.123

15.65 1.812 0.3 0.003

15.7 1.827 0.304 0.068

15.75 1.842 0.307 0.115

15.8 1.858 0.314 0.174

15.85 1.873 0.325 0.216

15.9 1.89 0.338 0.216

15.95 1.907 0.348 0.19

16 1.925 0.355 0.194

16.05 1.943 0.366 0.222

16.1 1.961 0.378 0.23

16.15 1.98 0.393 0.154

16.2 2.001 0.398 -0.001

16.25 2.021 0.39 -0.088

16.3 2.04 0.381 -0.009

16.35 2.058 0.384 0.164

16.4 2.078 0.403 0.216

16.45 2.099 0.416 0.076

16.5 2.12 0.413 -0.09

16.55 2.141 0.397 -0.041

16.6 2.159 0.393 0.326

16.65 2.179 0.424 0.803

16.7 2.201 0.482 1.117

16.75 2.226 0.55 1.122

16.8 2.256 0.603 0.92

16.85 2.287 0.639 0.751

16.9 2.32 0.673 0.694

16.95 2.355 0.704 0.737

17 2.39 0.745 0.795

17.05 2.429 0.792 0.697

17.1 2.47 0.825 0.401

17.15 2.513 0.827 0.144

17.2 2.552 0.837 -0.085

17.25 2.597 0.828 -0.438

17.3 2.637 0.787 -0.652

17.35 2.676 0.747 -0.561

17.4 2.711 0.723 -0.307

17.45 2.747 0.72 -0.115

17.5 2.782 0.723 -0.114

17.55 2.82 0.712 -0.13

17.6 2.855 0.693 0.089

17.65 2.887 0.71 0.367

17.7 2.921 0.792 -0.416

17.75 2.977 0.689 -1.511

17.8 2.992 0.553 -1.097

17.85 3.023 0.566 -0.363

17.9 3.05 0.556 -0.224

17.95 3.079 0.551 -0.281

18 3.106 0.527 -0.374

18.05 3.132 0.505 -0.309

18.1 3.156 0.496 -0.259

18.15 3.181 0.487 -0.359

18.2 3.206 0.461 -0.47

18.25 3.227 0.436 -0.48

18.3 3.249 0.408 -0.356

18.35 3.268 0.386 0.008

18.4 3.286 0.413 0.115

18.45 3.308 0.442 -0.696

18.5 3.332 0.418 -2.669

18.55 3.366 0.112 -3.418

18.6 3.336 -0.074 -1.493

18.65 3.343 0.009 -0.2

18.7 3.344 -0.012 -0.292

18.75 3.343 -0.035 -0.308

18.8 3.34 -0.062 -0.036

18.85 3.335 -0.051 0.537

18.9 3.333 0.002 0.951

18.95 3.336 0.047 1.274

19 3.336 0.133 1.438

19.05 3.35 0.207 1.047

19.1 3.355 0.279 -0.265

19.15 3.381 0.266 -2.849

19.2 3.402 -0.086 -3.744

19.25 3.364 -0.301 -1.033

19.3 3.354 -0.182 1.752

19.35 3.347 -0.039 2.796

19.4 3.344 0.2 1.654

19.45 3.38 0.198 -0.933

19.5 3.373 0.012 -1.936

19.55 3.371 -0.035 -1.963

19.6 3.376 -0.187 -1.546

19.65 3.35 -0.269 0.259

19.7 3.337 -0.139 1.6

19.75 3.338 -0.024 1.396

19.8 3.34 0.016 0.734

19.85 3.341 0.028 0.362

19.9 3.343 0.033 0.393

19.95 3.343 0.062 0.573

20 3.349 0.101 0.701