HW1

Q1

1:

﻿

﻿runfile('/Users/estherji/Desktop/Ji669\_hw1/hw1.py', wdir='/Users/estherji/Desktop/Ji669\_hw1')

opened file for ticker: JPM

r mean is 0.0008212274496950482

Monday 0 r mean is : 0.0012926687108083055

Monday 2015 r mean is : -0.0001037290196142839

Monday 2016 r mean is : -4.928067917741196e-05

Monday 2017 r mean is : 0.003057758291234109

Monday 2018 r mean is : 0.002050111570189884

Monday 2019 r mean is : 0.001528939729958131

Tuesday 0 r mean is : 0.0004306320243426649

Tuesday 2015 r mean is : 0.0009699883850923933

Tuesday 2016 r mean is : 0.0015380836749228012

Tuesday 2017 r mean is : 0.00018265802208362346

Tuesday 2018 r mean is : -0.0009899063322742292

Tuesday 2019 r mean is : 0.0007267694566644456

Wednesday 0 r mean is : 0.00146433610262194

Wednesday 2015 r mean is : 0.0015071492626500154

Wednesday 2016 r mean is : 0.00336410790746334

Wednesday 2017 r mean is : 0.0008261017268504645

Wednesday 2018 r mean is : 0.0021760141862691065

Wednesday 2019 r mean is : -0.0006606934020816422

Thursday 0 r mean is : 0.00044332379625656185

Thursday 2015 r mean is : 0.0016219973275131813

Thursday 2016 r mean is : 7.442521895462129e-05

Thursday 2017 r mean is : 0.00012718582765043298

Thursday 2018 r mean is : -0.0005006100222538517

Thursday 2019 r mean is : 0.0013818825111804758

Friday 0 r mean is : 0.0005043558720823927

Friday 2015 r mean is : -0.0019033377862116652

Friday 2016 r mean is : 0.0017164005312852177

Friday 2017 r mean is : 0.0005594141395315589

Friday 2018 r mean is : -0.0034490417605062894

Friday 2019 r mean is : 0.005042316755587903

r std : 0.00017495331109762402

Monday r std is 0.00017211308616380043

2015 monday r std is : 0.00020543440839961239

2016 monday r std is : 0.00018275680342671387

2017 monday r std is : 0.00010672596834754408

2018 monday r std is : 0.00023304224693107675

2019 monday r std is : 0.00013422482690741324

Tuesday std is 0.00017006236568141135

2015 Tuesday r std is : 0.00016577543809887736

2016 Tuesday r std is : 0.00022321214495537927

2017 Tuesday r std is : 0.000156316935146846

2018 Tuesday r std is : 0.00017569231755148654

2019 Tuesday r std is : 0.00012321051107709786

Wednesday std is 0.00017138953906182253

2015 Wednesday r std is : 0.0002184415632823291

2016 Wednesday r std is : 0.00019926997793631433

2017 Wednesday r std is : 0.00011854976495799871

2018 Wednesday r std is : 0.00019183658871049485

2019 Wednesday r std is : 0.00011591449946398811

Thursday std is 0.00015416572147929333

2015 Thursday r std is : 0.0001723310719789572

2016 Thursday r std is : 0.00020711153808774827

2017 Thursday r std is : 7.596638122855782e-05

2018 Thursday r std is : 0.00020383986417157952

2019 Thursday r std is : 0.00011176655794113471

Friday std is 0.00020603462334038578

2015 Friday r std is : 0.00020339264244133062

2016 Friday r std is : 0.0003778857932782892

2017 Friday r std is : 6.954836604948115e-05

2018 Friday r std is : 0.00014747362918836172

2019 Friday r std is : 0.0001892231337982503

r plus mean is 0.009892600519960075

r plus std : 8.744312255758348e-05

r plus Monday mean is 0.010236621820731293

r plus Monday 2015 mean: 0.010355585381963147

r plus Monday 2016 mean: 0.010839574152143957

r plus Monday 2017 mean: 0.009426920277898052

r plus Monday 2018 mean: 0.011681662614007113

r plus Monday 2019 mean: 0.009375384801828927

r plus Tuesday mean is 0.009446929801769135

r plus Tuesday 2015 mean: 0.009973246783347687

r plus Tuesday 2016 mean: 0.010825331263817342

r plus Tuesday 2017 mean: 0.0097505062414902

r plus Tuesday 2018 mean: 0.007843133816363082

r plus Tuesday 2019 mean: 0.009089742749708606

r plus Wednesday mean is 0.009931422891927272

r plus Wednesday 2015 mean: 0.011203897131644321

r plus Wednesday 2016 mean: 0.010964778843388562

r plus Wednesday 2017 mean: 0.0073599100248351885

r plus Wednesday 2018 mean: 0.012731871048780024

r plus Wednesday 2019 mean: 0.0071435944042738675

r plus Thursday mean is 0.009086091513030237

r plus Thursday 2015 mean: 0.010731180417721182

r plus Thursday 2016 mean: 0.009926344413489923

r plus Thursday 2017 mean: 0.007707094448704359

r plus Thursday 2018 mean: 0.009074099659918908

r plus Thursday 2019 mean: 0.00818016882154194

r plus Friday mean is 0.010894925257358743

r plus Friday 2015 mean: 0.010933209222007304

r plus Friday 2016 mean: 0.012059274924284278

r plus Friday 2017 mean: 0.007728264042008649

r plus Friday 2018 mean: 0.010375560054158961

r plus Friday 2019 mean: 0.0119215083616155

Monday std for r plus is 7.356501906508547e-05

2015 monday r plus std is : 4.9755670800448866e-05

2016 monday r plus std is : 8.171796003394571e-05

2017 monday r plus std is : 7.777515825044962e-05

2018 monday r plus std is : 9.412483689297873e-05

2019 monday r plus std is : 6.092371375861398e-05

Tuesday std for r plus is 7.25631456098418e-05

2015 Tuesday r plus std is : 6.434375067500763e-05

2016 Tuesday r plus std is : 0.00012193815464061013

2017 Tuesday r plus std is : 4.897772412691753e-05

2018 Tuesday r plus std is : 5.2514637881689925e-05

2019 Tuesday r plus std is : 6.351735495728e-05

Wednesday std for r plus is 9.436703551717526e-05

2015 Wednesday r plus std is : 0.00010704335138131003

2016 Wednesday r plus std is : 0.00013704396679774385

2017 Wednesday r plus std is : 5.6514871613189225e-05

2018 Wednesday r plus std is : 9.373586645665681e-05

2019 Wednesday r plus std is : 4.16363945373838e-05

Thursday std for r plus is 6.108944019416292e-05

2015 Thursday r plus std is : 7.455947041358278e-05

2016 Thursday r plus std is : 9.53251888262439e-05

2017 Thursday r plus std is : 2.9759790023742203e-05

2018 Thursday r plus std is : 5.13527014140305e-05

2019 Thursday r plus std is : 4.802664830057722e-05

Friday std for r plus is 0.00013810311628830482

2015 Friday r plus std is : 8.231170993993592e-05

2016 Friday r plus std is : 0.0002918718789696013

2017 Friday r plus std is : 5.844993025537685e-05

2018 Friday r plus std is : 6.0712590302045496e-05

2019 Friday r plus std is : 0.00012402019431223302

r minus mean is -0.009017376178751604

r minus std : 8.381709350563294e-05

r minus Monday mean is -0.008779350557122988

r minus Monday 2015 mean: -0.010563043421191715

r minus Monday 2016 mean: -0.008844124966013901

r minus Monday 2017 mean: -0.005540610390762213

r minus Monday 2018 mean: -0.011434059891154235

r minus Monday 2019 mean: -0.007744131718616446

r minus Tuesday mean is -0.009392001326674783

r minus Tuesday 2015 mean: -0.009113661020953536

r minus Tuesday 2016 mean: -0.00929703851212083

r minus Tuesday 2017 mean: -0.009385190197322953

r minus Tuesday 2018 mean: -0.011295119839017759

r minus Tuesday 2019 mean: -0.007970722768101481

r minus Wednesday mean is -0.008990675411128992

r minus Wednesday 2015 mean: -0.011715688740524038

r minus Wednesday 2016 mean: -0.008217866852041759

r minus Wednesday 2017 mean: -0.008083636861310523

r minus Wednesday 2018 mean: -0.009259497414784388

r minus Wednesday 2019 mean: -0.007597838118842095

r minus Thursday mean is -0.009207766820807376

r minus Thursday 2015 mean: -0.009467442956218297

r minus Thursday 2016 mean: -0.010171570743362092

r minus Thursday 2017 mean: -0.006369878704681503

r minus Thursday 2018 mean: -0.012156778330985907

r minus Thursday 2019 mean: -0.008329955075050188

r minus Friday mean is -0.00872309007454362

r minus Friday 2015 mean: -0.011198768378370229

r minus Friday 2016 mean: -0.010874924816713637

r minus Friday 2017 mean: -0.004697742455618307

r minus Friday 2018 mean: -0.009593309233690846

r minus Friday 2019 mean: -0.00756953452212936

Monday std for r minus is 9.156139901469619e-05

2015 monday r minus std is : 0.00014231863049668576

2016 monday r minus std is : 9.125003128004135e-05

2017 monday r minus std is : 1.7113215030393763e-05

2018 monday r minus std is : 0.00011583025527196693

2019 monday r minus std is : 6.210291531503326e-05

Tuesday std for r minus is 9.123311499863191e-05

2015 Tuesday r minus std is : 8.6913241469516e-05

2016 Tuesday r minus std is : 0.00012333679844077946

2017 Tuesday r minus std is : 8.056870706757115e-05

2018 Tuesday r minus std is : 0.0001221758204346683

2019 Tuesday r minus std is : 3.690812724966796e-05

Wednesday std for r minus is 6.86648312941719e-05

2015 Wednesday r minus std is : 6.728624478710877e-05

2016 Wednesday r minus std is : 7.19176480729424e-05

2017 Wednesday r minus std is : 6.554483570771837e-05

2018 Wednesday r minus std is : 4.662982196401987e-05

2019 Wednesday r minus std is : 7.967603087575516e-05

Thursday std for r minus is 8.154521773209176e-05

2015 Thursday r minus std is : 6.736594181791972e-05

2016 Thursday r minus std is : 0.00011744618377162324

2017 Thursday r minus std is : 2.4113027835233336e-05

2018 Thursday r minus std is : 0.00014200572293314974

2019 Thursday r minus std is : 4.2479929901111284e-05

Friday std for r minus is 8.533768115978561e-05

2015 Friday r minus std is : 8.5345676739099e-05

2016 Friday r minus std is : 0.0001938264140757095

2017 Friday r minus std is : 1.2361756954783003e-05

2018 Friday r minus std is : 6.334001687400386e-05

2019 Friday r minus std is : 6.294372209188243e-05

number of minus day on monday 111

number of minus day on Tuesday 123

number of minus day on Wednesday 115

number of minus day on Thursday 120

number of minus day on Friday 134

number of minus day on monday 2015 24

number of minus day on monday 2016 26

number of minus day on monday 2017 20

number of minus day on monday 2018 20

number of minus day on monday 2019 22

number of minus day on Tuesday 2015 25

number of minus day on Tuesday 2016 24

number of minus day on Tuesday 2017 26

number of minus day on Tuesday 2018 24

number of minus day on Tuesday 2019 25

number of minus day on Wednesday 2015 22

number of minus day on Wednesday 2016 21

number of minus day on Wednesday 2017 22

number of minus day on Wednesday 2018 24

number of minus day on Wednesday 2019 27

number of minus day on Thursday 2015 23

number of minus day on Thursday 2016 25

number of minus day on Thursday 2017 28

number of minus day on Thursday 2018 23

number of minus day on Thursday 2019 21

number of minus day on Friday 2015 29

number of minus day on Friday 2016 23

number of minus day on Friday 2017 30

number of minus day on Friday 2018 36

number of minus day on Friday 2019 18

number of plus day on Monday 125

number of plus day on Tuesday 134

number of plus day on Wednesday 142

number of plus day on Thursday 134

number of plus day on Friday 119

number of plus day on monday 2015 24

number of plus day on monday 2016 21

number of plus day on monday 2017 27

number of plus day on monday 2018 28

number of plus day on monday 2019 26

number of plus day on Tuesday 2015 28

number of plus day on Tuesday 2016 28

number of plus day on Tuesday 2017 26

number of plus day on Tuesday 2018 28

number of plus day on Tuesday 2019 26

number of plus day on Wednesday 2015 30

number of plus day on Wednesday 2016 32

number of plus day on Wednesday 2017 30

number of plus day on Wednesday 2018 26

number of plus day on Wednesday 2019 24

number of plus day on Thursday 2015 28

number of plus day on Thursday 2016 26

number of plus day on Thursday 2017 24

number of plus day on Thursday 2018 28

number of plus day on Thursday 2019 30

number of plus day on Friday 2015 21

number of plus day on Friday 2016 28

number of plus day on Friday 2017 22

number of plus day on Friday 2018 16

number of plus day on Friday 2019 33

number of plus day 654

number of minus day 603

the sum of rplus is 6.469760740053888

the sum of r minus is -5.4374778357872176

Money I will have for JPM is 646.9760740053888

Money I will have for JPM with buy and hold is 103.22829042666709

2:

Max, min

2015

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿-0.0001037290196142839 | ﻿﻿0.00020543440839961239 | 24 | ﻿-0.010563043421191715 | ﻿0.00014231863049668576 | 24 | ﻿﻿0.010355585381963147 | ﻿4.9755670800448866e-05 |
| Tuesday | ﻿﻿0.0009699883850923933 | ﻿﻿﻿0.00016577543809887736 | 25 | ﻿﻿-0.009113661020953536 | ﻿8.6913241469516e-05 | 28 | ﻿﻿﻿0.009973246783347687 | ﻿6.434375067500763e-05 |
| Wednesday | ﻿﻿0.0015071492626500154 | ﻿﻿0.0002184415632823291 | 22 | ﻿-0.011715688740524038 | ﻿6.728624478710877e-05 | 30 | ﻿﻿0.011203897131644321 | ﻿0.00010704335138131003 |
| Thursday | ﻿﻿﻿0.0016219973275131813 | ﻿﻿0.0001723310719789572 | 23 | ﻿-0.009467442956218297 | ﻿6.736594181791972e-05 | 28 | ﻿﻿0.010731180417721182 | ﻿7.455947041358278e-05 |
| Friday | ﻿﻿-0.0019033377862116652 | ﻿﻿0.00020339264244133062 | 29 | ﻿-0.011198768378370229 | ﻿8.5345676739099e-05 | 21 | ﻿﻿0.010933209222007304 | ﻿﻿8.231170993993592e-05 |

2016

Max, min

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿-4.928067917741196e-05 | ﻿﻿0.00018275680342671387 | 26 | ﻿-0.008844124966013901 | ﻿9.125003128004135e-05 | 21 | ﻿﻿0.010839574152143957 | ﻿8.171796003394571e-05 |
| Tuesday | ﻿﻿0.0015380836749228012 | ﻿﻿0.00022321214495537927 | 24 | ﻿﻿-0.00929703851212083 | ﻿0.00012333679844077946 | 28 | ﻿﻿0.010825331263817342 | ﻿0.00012193815464061013 |
| Wednesday | ﻿﻿0.00336410790746334 | ﻿﻿0.00019926997793631433 | 21 | ﻿-0.008217866852041759 | ﻿﻿7.19176480729424e-05 | 32 | ﻿﻿0.010964778843388562 | ﻿0.00013704396679774385 |
| Thursday | ﻿﻿﻿7.442521895462129e-05 | ﻿﻿0.00020711153808774827 | 25 | ﻿-0.010171570743362092 | ﻿0.00011744618377162324 | 26 | ﻿﻿0.009926344413489923 | ﻿9.53251888262439e-05 |
| Friday | ﻿﻿0.0017164005312852177 | ﻿﻿0.0003778857932782892 | 23 | ﻿-0.010874924816713637 | ﻿0.0001938264140757095 | 28 | ﻿﻿0.012059274924284278 | ﻿﻿0.0002918718789696013 |

2017

Max, min

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿0.003057758291234109 | ﻿﻿0.00010672596834754408 | 20 | ﻿-0.005540610390762213 | ﻿1.7113215030393763e-05 | 27 | ﻿﻿0.009426920277898052 | ﻿7.777515825044962e-05 |
| Tuesday | ﻿﻿0.00018265802208362346 | ﻿﻿0.000156316935146846 | 26 | ﻿﻿-0.009385190197322953 | ﻿8.056870706757115e-05 | 26 | ﻿﻿0.0097505062414902 | ﻿4.897772412691753e-05 |
| Wednesday | ﻿﻿0.0008261017268504645 | ﻿﻿0.00011854976495799871 | 22 | ﻿-0.008083636861310523 | ﻿6.554483570771837e-05 | 30 | ﻿﻿0.0073599100248351885 | ﻿5.6514871613189225e-05 |
| Thursday | ﻿﻿﻿0.00012718582765043298 | ﻿﻿7.596638122855782e-05 | 28 | ﻿-0.006369878704681503 | ﻿2.4113027835233336e-05 | 24 | ﻿﻿0.007707094448704359 | ﻿2.9759790023742203e-05 |
| Friday | ﻿﻿0.0005594141395315589 | ﻿﻿6.954836604948115e-05 | 30 | ﻿-0.004697742455618307 | ﻿1.2361756954783003e-05 | 22 | ﻿﻿0.007728264042008649 | ﻿﻿5.844993025537685e-05 |

2018

Max, min

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿0.002050111570189884 | ﻿﻿0.00023304224693107675 | 20 | ﻿-0.011434059891154235 | ﻿0.00011583025527196693 | 28 | ﻿﻿0.011681662614007113 | ﻿9.412483689297873e-05 |
| Tuesday | ﻿﻿-0.0009899063322742292 | ﻿﻿0.00017569231755148654 | 24 | ﻿﻿-0.011295119839017759 | ﻿0.0001221758204346683 | 28 | ﻿﻿0.007843133816363082 | ﻿5.2514637881689925e-05 |
| Wednesday | ﻿﻿0.0021760141862691065 | ﻿﻿0.00019183658871049485 | 24 | ﻿-0.009259497414784388 | ﻿4.662982196401987e-05 | 26 | ﻿﻿0.012731871048780024 | ﻿9.373586645665681e-05 |
| Thursday | ﻿﻿﻿-0.0005006100222538517 | ﻿﻿0.00020383986417157952 | 23 | ﻿-0.012156778330985907 | ﻿0.00014200572293314974 | 28 | ﻿﻿0.009074099659918908 | ﻿5.13527014140305e-05 |
| Friday | ﻿﻿-0.0034490417605062894 | ﻿﻿0.00014747362918836172 | 36 | ﻿-0.009593309233690846 | ﻿6.334001687400386e-05 | 16 | ﻿﻿0.010375560054158961 | ﻿﻿6.0712590302045496e-05 |

2019

Max, min

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿0.001528939729958131 | ﻿﻿0.00013422482690741324 | 22 | ﻿-0.007744131718616446 | ﻿6.210291531503326e-05 | 26 | ﻿﻿0.009375384801828927 | ﻿6.092371375861398e-05 |
| Tuesday | ﻿﻿0.0007267694566644456 | ﻿﻿0.00012321051107709786 | 25 | ﻿﻿-0.007970722768101481 | ﻿3.690812724966796e-05 | 26 | ﻿﻿0.009089742749708606 | ﻿6.351735495728e-05 |
| Wednesday | ﻿﻿-0.0006606934020816422 | ﻿﻿0.00011591449946398811 | 27 | ﻿-0.007597838118842095 | ﻿7.967603087575516e-05 | 24 | ﻿﻿0.0071435944042738675 | ﻿4.16363945373838e-05 |
| Thursday | ﻿﻿﻿0.0013818825111804758 | ﻿﻿0.00011176655794113471 | 21 | ﻿-0.008329955075050188 | ﻿4.2479929901111284e-05 | 30 | ﻿﻿0.00818016882154194 | ﻿4.802664830057722e-05 |
| Friday | ﻿﻿0.005042316755587903 | ﻿﻿0.0001892231337982503 | 18 | ﻿-0.00756953452212936 | ﻿6.294372209188243e-05 | 33 | ﻿  ﻿0.0119215083616155 | ﻿  ﻿0.00012402019431223302 |

1. are there more days with negative or non-negative returns?

﻿The number of plus day is 654 and ﻿number of minus day is 603. Thus, there are more days with non-negative returms.

1. does your stock lose more on a ”down” day than it gains on an ”up” days.

﻿The sum of r plus is 6.469760740053888, the sum of r minus is -5.4374778357872176. Thus, my stock gains more on “up” days.

1. are these results the same across days of the week?

They are not same across the week.

Question 2:

1. are there any patterns across days of the week?

There is no very exact pattern. I found a relationship between |R−| and |R+|. For example, if Monday's |R−| is the maximum value in a week, then Monday's |R+| is the minimum value in that week

1. are there any patterns across different years for the same day of the week?

Wednesday has two years where µ(R) is the maximum, and Wednesday has three years where it is the maximum of |R+|.

1. what are the best and worst days of the week to be invested for each year.

So I think Tuesday is a good, buying opportunity. Because the price have a higher chance to have non-negative return on Wednesday.

The worst days should be Thursday, because no year is Thursday the day with the highest number of |R+|

1. do these days change from year to year for your stock?

Yes, Between 2015 and 2017, Wednesdays have been the days with the most |R+| But in 2019, Wednesday actually turned out to be the day with the most |R−|.

Question 3:

Max, Min

JPM

Total:

2015-2019

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿0.0012926687108083055 | ﻿0.00017211308616380043 | 111 | ﻿-0.008779350557122988 | 0.0000915613 | 125 | ﻿0.010236621820731293 | 0.00007356501 |
| Tuesday | ﻿0.0004306320243426649 | ﻿0.00017006236568141135 | 123 | ﻿-0.009392001326674783 | 0.00009123311 | 134 | ﻿0.009446929801769135 | 0.00007256314 |
| Wednesday | ﻿0.00146433610262194 | ﻿0.00017138953906182253 | 115 | ﻿-0.008990675411128992 | 0.00006866483 | 142 | ﻿0.009931422891927272 | 0.00009436703 |
| Thursday | ﻿0.00044332379625656185 | ﻿0.00015416572147929333 | 120 | ﻿-0.009207766820807376 | 0.00008154521 | 134 | ﻿0.009086091513030237 | 0.00006108944 |
| Friday | ﻿0.0005043558720823927 | ﻿0.00020603462334038578 | 134 | ﻿-0.00872309007454362 | 0.00008533768 | 119 | ﻿0.010894925257358743 | ﻿0.00013810311628830482 |

SPY:

2015-2019

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DAY | μ(R) | σ(R) | |R−| | μ(R−) | σ(R−) | |R+| | μ(R+) | σ(R+) |
| Monday | ﻿ ﻿6.480259651625339e-05 | ﻿ ﻿7.950610577324693e-05 | 108 | ﻿-0.006483767951772551 | ﻿6.51207053582848e-05 | 128 | ﻿0.005590158996634932 | ﻿ ﻿2.493103783442256e-05 |
| Tuesday | ﻿ ﻿0.0003478860329702755 | ﻿ ﻿6.390872037067643e-05 | 117 | ﻿-0.005898431725437722 | ﻿3.359916448943222e-05 | 140 | ﻿0.005568023016782673 | ﻿ ﻿2.9382384741211964e-05 |
| Wednesday | ﻿ ﻿0.0010276936703657153 | ﻿ ﻿7.372793831674781e-05 | 112 | ﻿-0.0053925394441762045 | ﻿3.790827130554573e-05 | 145 | ﻿0.005986770282977405 | ﻿ ﻿4.496467444498079e-05 |
| Thursday | ﻿ ﻿0.0006213365737283526 | ﻿ ﻿6.084076731514901e-05 | 119 | ﻿﻿-0.005213670171962836 | ﻿4.0186064571403926e-05 | 135 | ﻿0.005764786964374659 | ﻿ ﻿2.258035564267627e-05 |
| Friday | ﻿ ﻿0.00025131065995620495 | ﻿ ﻿7.955047264531076e-05 | 113 | ﻿-0.006590507261307627 | ﻿5.600269818429486e-05 | 140 | ﻿0.0057736351249762985 | ﻿ ﻿3.0278084614363202e-05 |

1. what is the best and worst days of the week for each?

For JPM, the best days are Monday and Wednesday, the worst day is Friday.

For SPY, the best days is Wednesday, the worst day is Monday.

2. are these days the same for your stock as they are for S&P- 500?

No, they are not same.

Question 4:

You listen to the oracle and follow its advice. How much much money will you have on the last trading day of 2019:

﻿ ﻿

Money I will have for JPM with listen to oracle is 60806.31337540596

﻿Money I will have for SPY with listen to oracle is 5080.744105100024

Question 5:

1. ﻿ Money I will have for SPY with buy and hold is 128.12844238819153

Money I will have for JPM with buy and hold is 160.73549128519383

1. The result is very, very much smaller than that of question 4.

Question 6:

1. ﻿
2. Money I will have for JPM with 6 a is 36937.85518600864

﻿ Money I will have for SPY with 6 a is 3809.2488922894195

﻿

1. Money I will have for JPM with 6 b is 36625.01044479383

Money I will have for SPY with 6 b is 3588.31480888253

1. ﻿ Money I will have for JPM with 6 c is 23649.781480541453

Money I will have for SPY with 6 c is 2826.3043564872964

1. I gain more by missing the Best days
2. Yes, the results in part (c) is different from the results that I obtained in question 4.