Performance comparison is return comparison:

Crisis period: 12/31/2019 to 3/31/2020

Post crisis period: 3/31/2020 to 11/11/2020

Crisis Return Cal: (Price at 3/31/2020 / price at 12/31/2019) - 1

Post Crisis Return Cal: Price at 11/11/2020 / Price at 3/31/2020) - 1

Question 1:

rank 11 sectors performance by descending order: crisis, post crisis, and total period.

Fill in the form below:

|  |  |
| --- | --- |
| Sector Name | Post Crisis Return |
| XLY | 0.567429 |
| XLB | 0.554371 |
| XLK | 0.516281 |
| XLI | 0.450231 |
| XLC | 0.441976 |
| SPY | 0.395436 |
| XLF | 0.314225 |
| XLV | 0.264896 |
| XLP | 0.243093 |
| XLU | 0.220756 |
| XLRE | 0.211609 |
| XLE | 0.196698 |

Crisis Period: Post Crisis Period:

|  |  |
| --- | --- |
| Sector Name | Crisis Return |
| XLK | -0.11869 |
| XLV | -0.12615 |
| XLP | -0.13017 |
| XLU | -0.13394 |
| XLC | -0.17276 |
| XLRE | -0.19234 |
| SPY | -0.19448 |
| XLY | -0.21419 |
| XLB | -0.26179 |
| XLI | -0.27006 |
| XLF | -0.31785 |
| XLE | -0.50516 |

Total Period (12/31/2019 to 11/11/2020)

|  |  |
| --- | --- |
| Sector Name | Tot Ret |
| XLK | 0.336314 |
| XLY | 0.231696 |
| XLC | 0.192854 |
| XLB | 0.147454 |
| SPY | 0.124056 |
| XLV | 0.105324 |
| XLP | 0.081281 |
| XLI | 0.05858 |
| XLU | 0.057246 |
| XLRE | -0.02143 |
| XLF | -0.1035 |
| XLE | -0.40782 |

Crisis period (12/31/2019~ 3/31/2020)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sector | Best Performer Name | Best performer Return | Worst Performer Name | Worst Performer Return | Discrepancy (BstPerfor Ret-WstPerfor Ret) |
| Consumer Discretionary | DPZ | 0.105697 | NCLH | -0.81236 | 0.91805783 |
| Consumer Staples | CLX | 0.135898 | SYY | -0.46374 | 0.5996418 |
| Energy | COG | -0.0062 | APA | -0.8354 | 0.829199635 |
| Financials | MSCI | 0.121516 | CMA | -0.58364 | 0.70515074 |
| Health Care | REGN | 0.300442 | HCA | -0.39007 | 0.69050783 |
| Industrials | ROL | 0.093203 | UAL | -0.64184 | 0.735046434 |
| Information Technology | CTXS | 0.280445 | DXC | -0.64597 | 0.92641933 |
| Materials | NEM | 0.045059 | MOS | -0.49853 | 0.543585307 |
| Communication Services | NFLX | 0.160491 | VIAC | -0.66115 | 0.82164222 |
| Real Estate | DLR | 0.169233 | SPG | -0.62607 | 0.7953037 |
| Utilities | NEE | -0.00117 | CNP | -0.42731 | 0.426140361 |

Post Crisis period (3/31/2020~ 11/11/2020)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sector | Best Performer Name | Best performer Return | Worst Performer Name | Worst Performer Return | Discrepancy |
| Consumer Discretionary | ETSY | 2.397243 | TIF | 0.024722 | 2.372520334 |
| Consumer Staples | EL | 0.561327 | WBA | -0.07341 | 0.63473577 |
| Energy | APA | 1.398056 | HFC | -0.10882 | 1.506873686 |
| Financials | SIVB | 1.176463 | WFC | -0.13251 | 1.30897611 |
| Health Care | ALGN | 1.654671 | BIIB | -0.22868 | 1.88335171 |
| Industrials | FDX | 1.225505 | HII | -0.12242 | 1.34792013 |
| Information Technology | QCOM | 1.211829 | CTXS | -0.18421 | 1.39604382 |
| Materials | FCX | 1.893333 | IFF | 0.083211 | 1.81012254 |
| Communication Services | VIAC | 1.173418 | LUMN | 0.022199 | 1.151219265 |
| Real Estate | VTR | 0.849064 | EQR | -0.01325 | 0.862315008 |
| Utilities | AES | 0.607823 | FE | -0.22893 | 0.83675219 |

SQL queries below:

Select data SQL:

Eft\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20191231 = Date and Type = "ETF") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20200331 = Date and Type = "ETF") as tem2

where tem1.Ticker = tem2.Ticker

Eft\_post\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as post\_crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20200331 = Date and Type = "ETF") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20201111 = Date and Type = "ETF") as tem2

where tem1.Ticker = tem2.Ticker

Eft\_tot\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as tol\_crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20191231 = Date and Type = "ETF") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20201111 = Date and Type = "ETF") as tem2

where tem1.Ticker = tem2.Ticker

Stock\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20191231 = Date and Type = "Stock") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20200331 = Date and Type = "Stock") as tem2

where tem1.Ticker = tem2.Ticker

Stock\_post\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as post\_crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20200331 = Date and Type = "Stock") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20201111 = Date and Type = "Stock") as tem2

where tem1.Ticker = tem2.Ticker

Stock\_tot\_crisis period return

select tem1.Ticker, tem1.Type, tem1.Sector, (tem2.PriceOrCasesN/tem1.PriceOrCasesN - 1) as tol\_crisis\_period\_return

from (select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20191231 = Date and Type = "Stock") as tem1,

(select Ticker, PriceOrCasesN, Type, Sector

from wholedata

where 20201111 = Date and Type = "Stock") as tem2

where tem1.Ticker = tem2.Ticker

Q1:

Select \*

From etf\_return\_crisis

Order by return\_crisis desc limit 11

Select \*

From etf\_return\_post\_crisis

Order by return\_post\_crisis desc limit 11

Select \*

From etf\_return\_total\_crisis

Order by return\_total\_crisis desc limit 11

Q2:

table 1:

select rc.ticker, tem.Sector, tem.min

from (select sp.Sector, min(rc.return\_crisis) as min

from sp500 sp, return\_crisis rc

where sp.Ticker = rc.ticker

group by sp.Sector) as tem, return\_crisis rc

where tem.min = rc.return\_crisis

select rc.ticker, tem.Sector, tem.max

from (select sp.Sector, max(rc.return\_crisis) as max

from sp500 sp, return\_crisis rc

where sp.Ticker = rc.ticker

group by sp.Sector) as tem, return\_crisis rc

where tem.max = rc.return\_crisis

select tem1.ticker, tem1.Sector, tem2.max - tem1.min as diff

from (select rc.ticker, tem.Sector, tem.min

from (select sp.Sector, min(rc.return\_crisis) as min

from sp500 sp, return\_crisis rc

where sp.Ticker = rc.ticker

group by sp.Sector) as tem, return\_crisis rc

where tem.min = rc.return\_crisis) as tem1,

(select rc.ticker, tem.Sector, tem.max

from (select sp.Sector, max(rc.return\_crisis) as max

from sp500 sp, return\_crisis rc

where sp.Ticker = rc.ticker

group by sp.Sector) as tem, return\_crisis rc

where tem.max = rc.return\_crisis) as tem2

where tem1.Sector = tem2.Sector

table 2:

select rpc.ticker, tem.Sector, tem.min

from (select sp.Sector, min(rpc.return\_post\_crisis) as min

from sp500 sp, return\_post\_crisis rpc

where sp.Ticker = rpc.ticker

group by sp.Sector) as tem, return\_post\_crisis rpc

where tem.min = rpc.return\_post\_crisis

select rpc.ticker, tem.Sector, tem.max

from (select sp.Sector, max(rpc.return\_post\_crisis) as max

from sp500 sp, return\_post\_crisis rpc

where sp.Ticker = rpc.ticker

group by sp.Sector) as tem, return\_post\_crisis rpc

where tem.max = rpc.return\_post\_crisis

select tem1.ticker, tem1.Sector, tem2.max - tem1.min as diff

from (select rpc.ticker, tem.Sector, tem.min

from (select sp.Sector, min(rpc.return\_post\_crisis) as min

from sp500 sp, return\_post\_crisis rpc

where sp.Ticker = rpc.ticker

group by sp.Sector) as tem, return\_post\_crisis rpc

where tem.min = rpc.return\_post\_crisis) as tem1,

(select rpc.ticker, tem.Sector, tem.max

from (select sp.Sector, max(rpc.return\_post\_crisis) as max

from sp500 sp, return\_post\_crisis rpc

where sp.Ticker = rpc.ticker

group by sp.Sector) as tem, return\_post\_crisis rpc

where tem.max = rpc.return\_post\_crisis) as tem2

where tem1.Sector = tem2.Sector