## LAMPIRAN

Lampiran 1 Data Ketersediaan dan Permintaan Produk Kanon



PT. Petrokimia Kayaku Gresik

Departemen Produksi Pabrik 1

Periode	Ketersediaan	Permintaan
Jan-20	4.718	5.300
Feb-20	4.601	5.252
Mar-20	6.984	7.500
Apr-20	7.000	6.300
May-20	5.016	6.000
Jun-20	5.218	5.500
Jul-20	5.000	5.500
Aug-20	8.900	10.500
Sep-20	9.327	8.000
Oct-20	7.641	8.000
Nov-20	6.981	7.500
Dec-20	5.952	6.300
Jan-21	6.500	7.500
Feb-21	6.016	6.332
Mar-21	7.521	8.010
Apr-21	5.980	7.552
May-21	7.019	6.400
Jun-21	7.800	7.600
Jul-21	8.974	10.522
Aug-21	4.983	5.410
Sep-21	7.571	8.550
Oct-21	7.438	7.550
Nov-21	6.392	7.500
Dec-21	7.892	8.000
Jan-22	5.800	6.220
Feb-22	7.532	7.825
Mar-22	7.187	6.103
Apr-22	7.842	7.982
May-22	8.013	8.251
Jun-22	4.987	5.471
Jul-22	5.739	6.027
Aug-22	5.200	6.000
Sep-22	6.953	7.832
Oct-22	4.959	5.238
Nov-22	7.547	8.018
Dec-22	7.750	8.000
Jan-23	4.837	5.201
Feb-23	4.943	5.203
Mar-23	6,985	7,405
Apr-23	5,917	6.207
May-23	6 350	6 209
Inn-23	5 221	5 411
Jul 22	6 772	7 412
Jui-23	0.773	/.413
Aug-23	6.665	6.415
Sep-23	7.547	7.917
Oct-23	8.279	7.919
Nov-23	6.961	7.421
Dec-23	5.943	6.223
Jan-24	7.750	7.906
Feb-24	7.750	7.900
Mar-24	6.300	6.702
Apr-24	7,500	7,805
May-24	7 547	7 900
Iup 24	5 200	6 102
Jun-24	5.500	0.102



Ketersediaan dan Permintaan Produk Kanon



Lampiran 3 Pengolahan metode Triple Exponential Smoothing ;

Input data permintaan dari bulan Januari 2020 hingga Juni 2024



Time Series Winter's Method

## Pada kolom variable diisi C1 Permintaan



## Level, Trend, Seasonal

Klik storage dan ok



Jika sudah maka akan muncul hasil dari pengolahan data menggunakan metode Triple Exponential Smoothing



Lampiran 4 Pengolahan metode Arima:

Input data permintaan dari bulan Januari 2020 hingga Juni 2024



Isi Permintaan Pada Kolom





Melakukan transformasi dengan cara klik control charts, Box-Cox Transformation, lalu options



Melakukan Cek ulang

Jika sudah akan muncul hasil

I Minitab - Untitled File Edit Data Calc Stat Graph ' 글 문 중 상 등 상 등 수 기	View	Help Assista	nt Predictive	Analytics	Module Ar	iditional Too	zis													-	0 ×
Navigator +	В	x-Cax Plot of	Trans 1 × ×																		
Box-Cox Plot of Permintaen Box-Cox Plot of Permintaan	8	WORKSHEET 1 OX-COX P	lot of Tra	ins 1																	·
		6.0010 6.00100 6.00105 6.00105 6.00105 6.00105 6.00105	Lonse 5	Box-Cox	e Plot of Tr	rans 1	Ugp	er CL. (seiny Estis Upp Rose Linnit	λ 195,0% conflict une 0 eCL -1 died Value <sup>-1</sup>	web) 98 28 80 00											
		C1	2	G	 C4	G	C6	C7	CB	(9	C10	C11	C12	CI3	C14	C15	C16	C17	C18	C19	v en
		Permintaan	Trans 1																		
	1	5300	0,0137361																		
	2	7500	0.0115470																		
	4	6300	0,0125988																		
	5	6000	0,0129099																		
	6	5500	0,0134840																		-
	= 1	4.0.8.4	Worksheet 1								4										×.
Worksheet 1																6	∎ ⊞		——	+ 100%	>_
26°C Berawan			Q 500	rch	-	14. L	- 0	46	e e		•	An	<b>6</b> S	0	<b>a</b> 4	di.		~ =	40 BD	21/18 23/12/2024	٠
								• 1	1	• •	<b>-</b>		c								

Hasil dari Transformasi

Klik time series, autocorrelation untuk melakukan stasioneritas terhadap



Series Trans 1

Maka akan muncul hasil. Jika tidak ada lag yang keluar maka data sudah

## stasioner rata-rata



Hasil Autocorrelation Trans 1



Navigator	Basic Statistics Remember		
Navigator	5.400 B 50 B 10		
	ANOVA	Function: T., * X	
Box-Cox Plot of Permin Box-Cox Plot of Permin	DDE Control Charts	Plation Function: Trans 1 -	
Box-Cox Plot of Trans	Quality Tools	) 19/2 - 194 - 194	
Autocorrelation Function	reliability/Survival Predictive Analytics	6815 0.04 8,64 298 - 119 - 1103	
	Multivariate Time Series	1780 -0.33 11.23	
	Tables	er Terre Same Pol-	
	Nonperametrics	Georgoston.	
	Power and Sample Size	Movie Assrop- I BOT Tanks 1 PO South Encontraine - autoconstations)	
	1	W District Experimentary District Experime	
		ASWhite Mehod.	
	5 **	en uneren. 4 biog.	
	ele ele	Anconvertor.	
	4	<sup>40</sup> Mor Annual Adaccentration. 1	100
	* es	44 🛃 Bon-Con Bandomation. Measure how well observations at different time paints	
	+ C1	Augmented Dickey-Faller Tez. What was a date meaning and defined at 1 and 1 a	
	Permin 1	Addamanting and Adda	1
	2	5252 00117907 - 000449 - 017956 - 0.0452	
	4	600 00125900 0.06046 0.49454 1.3016	
	5	6000 0.0129099 0.093665 0.67366 1.8432 5500 0.0134640 0.013430 0.09590 1.8546	
	m H d b H	H + Worksheet 1 4	
D TPIA			
Pada	kolor	Time Series, Partial Autocorrelation	
Pada	kolon	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function ×	
Pada	kolom	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function Series: 'Trans 1'	
Pada	kolom	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: Trans 1'	
Pada	kolom <sub>ti</sub>	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: Trans 1' i © Default number of lags	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' © Default number of lags C Number of lags:	
Pada	kolon ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function Series: Trans 1'  Default number of lags C Number of lags:	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function  Series: 'Trans 1'  G Default number of lags C Number of lags:	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' © Default number of lags © Number of lags: © Store PACF	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function X Series: 'Trans 1'  Default number of lags C Number of lags: V Store PACF Store t statistics	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function  Series: 'Trans 1'  Default number of lags C Number of lags: V Store PACF V Store t statistics	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' © Default number of lags © Number of lags: © Store PACF © Store t statistics Title	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function X Partial Autocorrelation Function X Series: 'Trans 1' C Default number of lags C Number of lags: V Store PACF V Store t statistics Title:	
Pada	kolon ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function  Series: 'Trans 1'  Default number of lags C Number of lags: Title: Title:	
Pada	kolom ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' © Default number of lags © Number of lags: © Store PACF © Store t statistics Title:	
Pada	kolon ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' C Default number of lags C Number of lags: V Store PACF V Store t statistics Title:	
Pada	kolon ti	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: Trans 1'  Default number of lags Number of lags: V Store PACF Store PACF Store t statistics Title:	
Pada	kolom ti rt	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1'  Default number of lags Number of lags: V Store PACF Store t statistics Title:	
Pada	kolom ti rt	Time Series, Partial Autocorrelation n series diisi 'Trans 1' lalu ok Partial Autocorrelation Function × Series: 'Trans 1' © Default number of lags © Number of lags: © Store PACF © Store t statistics Title:	
Pada	kolom ti	Time Series, Partial Autocorrelation  n series diisi 'Trans 1' lalu ok  Partial Autocorrelation Function Series: 'Trans 1'  Default number of lags Number of lags: Vistore PACF Store t statistics Title: Select	
Pada	kolon ti rt	Time Series, Partial Autocorrelation  n series diisi 'Trans 1' lalu ok  Partial Autocorrelation Function  Series: 'Trans 1'  Default number of lags C Number of lags:  Select Select	

Isi Kolom Series

Minitab-Untitled   File Edit Data Calc Stat Graph   🎦 🕞 🚔 👗 🕼 🏗 🤝 🔿 🗖	Ver Hitp Austerf. Restrie Awyte Moder Addroud Ions □ # # δ
Navigator * Box-Cox Plot of Permintaan	Pertu Automatistis fue, * * # WARKIT1
Box-Cox Plot of Permistaan Box-Cox Plot of Trans 1 Autocorrelation Function: Trans 1	Partial Autocorrelation Function: Trans 1
Partial Autocorrelation Function: T.,	Fundam Acceleration Practice Prevant (International) (see 5% of policies international)
	t z s 4 s 4 s 6 s 6 n e 6 w Lug
	C1     C2     C3     C4     C5     C6     C7     C8     C9     C10     C11     C2     C13     C14     C15     C16     C17     C18     C19     Pointaian     Taini     ACI     Total     Stat     Sta
	2 SS20 017500 00459 00459 00459 004500000000
	Constant Constan
Worksheet 1	
<ul> <li>Skor pertanding</li> </ul>	
	Hasil Partial Autocorrelation
Klik stat	, time series, Arima
Minitab-United	
Navigator	and $ \beta  \geq < k  \beta  \geq < k  2 \leq   z  \geq   z $
Box-Cox Plot of Permir DOE Box-Cox Plot of Permir Control Cl	am tocorrelation Function: Trans 1
Box-Cox Plot of Trans 1 Quality IC Reliability Autocorrelation Function Partial Autocorrelation	Si      Si      Partial Autocorrelation Function for Trans 1     (min St spinforce tests for the partial autocontation)
Mutheria Time Serie Tables	b) En fore Sear Ret.
Nonparan Equivalen Power and	effor → 2 Decomposition
	2 4 6 00mmon. 4 8 00mmon. 4 9 00mmon.
	All Contractions         I         III         IIII         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
	1         SD0-ucid using         Intel           2         SD2-0017887-0.04400         AMMA
	3         DoD 00115401         (12.8019)         (n + n monitor numbrand pumping and monitor (n + n monitor numbrand pumping numbrand pumping numbrand (n + n monitor numbrand pumping numbrand pumping numbrand pumping numbrand (n + n monitor numbrand pumping numbrand pumping numbrand pumping numbrand (n + n monitor numbrand pumping numbrand pumping numbrand pumping numbrand numbrand pumping numbrand (n + n monitor numbrand numbrand pumping numbrand nu
Worksheet 1	6 500 0015464 401540 (1986) 1054 402781 415001 (1997) 11 11 11 11 11 11 11 11 11 11 11 11 11
1045 +2.29%	
	Time Series, Arima
<b>D</b> 1 1	
Pada ko	lom series isi permintaan, lalu masukkan seasonal, lorecast, p
kolom le	ead diisi 10 yang berarti peramalan untuk 10 periode
Music connet	
The both Data Calc Stat Graph	fee Help Justice Protecter Angles Moder Address Holes 2 H M K ⊗ 0 → β B → K R V K ℓ € Determine the second sec
Bos-Cox Plot of Permintaan	Preta Autometrix Parial Autocorrelation Function: Trans 1 Parial Autocorrelat
Box-Cox Plot of Trans 1 Autocorrelation Function: Trans 1	Partial Autosserelation function for Trans 1
Rattal Autocorrelation Function: T.,	U ABMA forcats X
	Bit // Presson         P Reserved read/           54         Annual // Annual /
	Managements         F         F         F         Output         D         Output         F         Output         Out
	3         44         27 bits under two in rotation         User two in           44         27 bits under two in rotation         Upper bits.         Upper bits.
	44 44 44 44 44 44 44 44 44 44 44 44 44
	Perminitian Tanki ACH 155A1 LBQE PACE 155A2 1 1000 0017314 00154 - 009951 00154 01554 - 009951 1 1000 0017314 00154 - 001951 - 00195 - 001951 1 1000 0017314 00154 - 001951 - 001951 - 001951 1 1000 0017314 00154 - 00155 - 001951 - 001951 1 1000 0017314 00154 - 001951 - 001951 - 001951 1 1000 0017314 00154 - 001951 - 001951 - 001951 1 1000 0017314 00154 - 001951 - 001951 - 001951 - 001951 1 1000 0017314 00154 - 001951 - 001951 - 001951 - 001951 1 1000 0017314 00154 - 001951 - 0001951 - 001951 -
	3 7300 0015470 012018 0.0444 0.002 012531 0.0375 4 5000 002598 0.00445 0.0464 1.395 0.02279 0.5370
	3         Move unicrystic starkes         Move unicry starkes         Move unicrystic starkes <td< td=""></td<>
Wansheet 1	

Maka akan keluar hasil, dan tidak ada lag yang keluar

Isi kolom Series, Seasonal, Forecast