A	В	С	D	E	F	G	Н	I	J	K	L	MN
1						*******************************						
2	MA	TLAB P	roject (#2) - Metallid	c Failure Ai	nalysis							
3	SE-16	OA Aerospo	ace Structural Analysis, Un	iversity of Califo	ornia, San Dieg	go (Copyright	J.B. Kosmatk	(a, 2020)				
5		Version:	Winter, 2020 (v1)									
6		version.	VIII(CI) 2020 (V1)									
7	P	roject Title:	Reader Example, Volume 1,	page 183 (3.57),	2-D Strain Rose	tte (0, 45, 90),	rotated 20 de	grees				7
8					1 0 0 0 0 0 0				Account		T	
9		Variable	Description	Value	Units				Units Ref	erence		
10		iInput	Input Units	1	1 = US, 2 = SI				US	SI		
11		iOutput	Output Units	1	1 = US, 2 = SI			σ, τ	$10^3 lb/in^2$	MPa		
12		ioption	Analysis Option	2	1 = Stress, 2 = :	Strain		<i>E</i> , <i>G</i>	10 ⁶ lb/in ²	GPa		
13						************************				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Activity and the second
14		Material Pro				11.5	1					
15 16		Variable E	Description Young's Modulus	A-Basis 10.3	B-Basis 10.3	Units Msi					-	
17		G	Shear Modulus	3.9	3.9	Msi						
18		σ_{yT}	Yield strength - tension	68	70	Ksi						
19		σ_{uT}	Ultimate strength - tension	78	80	Ksi			0000			
20		σ_{yc}	Yield strength - compressio	-70	-73	Ksi			and december of			
21		$\sigma_{\sf uC}$	Uultimate strength - compr	-78	-80	Ksi						
22		τ_y	Yield strength - shear	35.25	35.25	Ksi						
23		τ_u	Ultimate strength - shear	46	48	Ksi						
24										*************		
25		Safety Facto		Mala.	11-24-							
26 27		Variable SF _v	Description Safety Factor - yield	Value 1.1	Units 1				000			_
28		SF _u	Safety Factor - ultimate	1.5	1							
29		0. U	Sarcty ractor artifiate	2.0	-						-	
30												
31	Х	Option 1:	Applied Stress State						\$			
32									00000			
33		Applied Stre		Malera.	11-24-	1						
34 35		Variable	Description Stress (σ_{xx})	Value	Units Ksi	-				******************************		
36			Stress (σ_{xx})		Ksi				2000			
37			Stress (σ_{zz})		Ksi						-	
38			Stress (τ_{yz})		Ksi							energy-services
39			Stress (τ_{xz})		Ksi							ALANA ALANA ALANA
40			Stress (τ _{xy})		Ksi							
41												
42				_					and the second			
43	Х	Option 2:	Measured Strain State From	n Rosettes					No.			
44 45		Strain Gage	Rosette									
46		Variable	Description	Value	Units	1						
47			Orientation Angle (A)	0	degree	1			and			
48			Orientation Angle (B)	45	degree							
49			Orientation Angle (C)	90	degree							
50			Gage Rotation Angle	-20	degree							TABLE STATE OF THE
51			-									
52	-	Measured S		1/-!	11. 2							
53		Variable	Description	Value	Units							Ministration of the Control of the C
54 55			Strain (A) Strain (B)	900	μ in/in μ in/in							
56	-		Strain (B)	-400	μ in/in							
57		o C	Januari (C)		F*y				annoni anno			
58												
59 0)	END OF F	ILE									

A	В	С	D	E	F	G	Н	I	J	K	L	MN
2	MA	TIAD D	roject (#2) - Metalli	e Failure M	easured Ct.	rain Anal	veie		<u> </u>			
			roject (#2) - Metatti ace Structural Analysis, Un			-		~ 20201			-	
4	3E-10				rnia, san bieg	o (copyright	J.D. KOSIIIULK	u, 2020)				
5	~~~~~~	Version:	Winter, 2020 (v2) - Input: U	, Output: US/SI				***************************************	<u> </u>			
6												
7			John Kosmatka A0123456789									
9		Student ID.	AU123430763							and	-	
10	Р	roject Title:	Reader Example, Volume 1,	page 183 (3.57), 2	2-D Strain Roset	te (0, 45, 90),	rotated 20 de	grees				
11	********									000000000000000000000000000000000000000		
	INPUT	ECHO:										
13										000000000000000000000000000000000000000		
14	~~~~~~	Variable	Description	Value	Units	*****************************			eference			
15		ilnput	Input Units	1	1 = US, 2 = SI			US	SI			
16	*****	iOutput	Output Units		1 = US, 2 = SI		σ, τ	$10^3 lb/in^2$	MPa			
17		Ioption	Analysis Option	2	1 = Stress, 2 = S	train	E, G	10 ⁶ lb/in ²	GPa	***************************************		
18 19		Material Pro	onartias							1000	-	
20	~~~~~~	Variable	Description	A-Basis	B-Basis	Units						
21		E	Young's Modulus	10.3000	10.3000	Msi					-	
22		G	Shear Modulus	3.9000	3.9000	Msi				00000		
23		$\sigma_{\scriptscriptstyle yT}$	Yield strength - tension	68.0000	70.0000	Ksi						
24		$\sigma_{\it uT}$	Ultimate strength - tension	78.0000	80.0000	Ksi				000000		
25		$\sigma_{{\scriptscriptstyle yC}}$	Yield strength - compressio	-70.0000	-73.0000	Ksi				- Constant		
26		$\sigma_{\it uC}$	Uultimate strength - compr	-78.0000	-80.0000	Ksi						
27	~~~~~~	τ_y	Yield strength - shear	35.2500	35.2500	Ksi			~~~~~~			
28		τ_u	Ultimate strength - shear	46.0000	48.0000	Ksi				annonnonnon		
29	~~~~~~~											onene personene
30		Safety Facto Variable	Description	Value	Unite	*****************************			***************************************	1000		
32		SF _v	Safety Factor - yield	1.1	Units 1					and a second		
33	~~~~~~	SF _u	Safety Factor - ultimate	1.5	1							
34		31 _U	Safety Factor - ditillate	1.5	1					Transfer of the Control of the Contr	-	
35		Strain Gage	Rosette							200		
36	~~~~~~~~	Variable	Description	Value	Units						-	
37	************	θ_{A}	Orientation Angle (A)	0	degrees	*****************************						
38		$\theta_{\mathtt{B}}$	Orientation Angle (B)	45	degrees					000000000000000000000000000000000000000		
39		θ_{C}	Orientation Angle (C)	90	degrees					inconnection (
40		θ	Gage Rotation from (x,y)	-20	degrees					700000000000000000000000000000000000000		
41											_	
42		Measured S Variable		Malara.	11-24-					annone de la company	-	
44				Value	Units μ in/in					0000		
45			Strain (A) Strain (B)	1000 900	μ in/in	*****************************			************************	and a second		
46	~~~~~~		Strain (C)	-400	μ in/in							
47		ν.		400		00 Test 100					-	
48											-	
49	OUTP	UT:										
50										*sananament		
51	1.)	Measured s	trains in structural frame (x,	')								
52												
53		Variable	Description	Value	Units							
54		\mathcal{E}_{XX}	normal strain (x)	1221.904						****		
55		\mathcal{E}_{yy}	normal strain (y)	-621.904	μ ın/in							
56		γ_{xy}	shear strain	19.351	μ in/in						-	
57										710000000		
58	2.)	Principal Str	rains									
59			D 1 11	V. 1	11. 11							
60		Variable	Description	Value	Units					9000	-	
61		£ 11	normal strain (1)	-621.954								
62		€ ₂₂	normal strain (2)	1221.954	μ ш/Ш							
63										Pronounces		
64	3.)	Allowable S	trains									

	А В	С	D	Е	F	G	Н	I	J	K	L	ΜN
65												
66		Variable	Description	A-Basis	B-Basis	Units						
67		ε _T *	Allowable Tension	5048.544	5177.994	μ in/in						
68		ε _c *	Allowable Compression	-5048.544	-5177.994	μ in/in						
69		γ_R^*	Allowable Shear	7863.248	8205.128	μ in/in						
70		γ_T^*	Allow Shear Tresca Mixed	2524.272	2588.997	μ in/in						T
71									·	·		and an and
72	4.) Margin of S	afety (Saint Venant Failure C	Criteria)								
73												
74		Variable	Description	A-Basis	B-Basis	Units						
75		MS	Margin of Safety	3.1315	3.2375	1						
76												
77	End	of Output										