

WELCOME TO THE WELLRITHMS MACHINE LEARNING ENGINEER TAKE HOME ASSESSMENT!

Please review and complete the following two tasks as part of your take-home assessment.

Once completed, submit your Python code (in .py or .ipynb format) and a document (Word, PowerPoint, or PDF) describing your approach, assumptions, and key findings to the following email: careers@wellrithms.com.

Task 1:

1. You have been provided with the text in the Excel file.
2. We need to process and clean the data and identify specific groups which we can group items together.
3. How many items are in the Excel file? How many groups have you identified?
4. Please return a table with the items, their corresponding groups and score of how likely items fit into that group.

Task 2:

1. You have been provided with 3 images.
2. We need to process each image using Python. For each image, we need to return a table in pandas for a further analysis.
3. Once the table is returned, how will you further process and clean the data? Please return the cleaned data.

You have 7 calendar days to complete the assignment.

Thank you for taking the time to complete the assessment! Good luck!

Hiring Team

	42 REV CO	43 DESCRIPTION	44 HCPCS CODE	45 SERVICE DATE	46 SERVICE UNITS	47 TOTAL CHARGES
1	250	PHARMACY		21325	235	2312.68
2	250	PHARMACY		21425	6	136
3	259	PHARMACY		21325	8	21.5
4	259	PHARMACY		21425	13	32.36
5	259	PHARMACY		21525	9	24.43
6	270	CENTRAL SERVICE		21325	1	139
7	272	SURGICAL SUPPLIES		21325	9	16980
8	274	IMMOBILIZER SHOULDER UNIT	L3670	21325	1	595
9	278	SUPPLIES/IMPLANT		21325	11	72732
10	300	VENIPUNCTURE	36415	21425	1	36
11	300	BASIC METABOLIC PANEL	80048	21425	1	236
12	300	TROPONIN I	84484	21425	2	554
13	300	CBC WITH AUTODIFF	85025	21425	1	177
14	300	VENIPUNCTURE	36415	21525	1	36
15	300	H/H HEMOGRAM AND PLT COU	85027	21525	1	158
16	320	SHOULDER 1 VIEW LT	73020	21325	1	486.5
17	320	CLAVICLE LT	73000	21425	1	569
18	324	DX X-RAY/CHEST	71045	21425	1	605.75
19	360	OPERATING ROOM	23472LT	21325	1	16407
20	410	RESPORATORY SERVICES	9464976	21325	2	376
21	410	RESPORATORY SERVICES	94664XY	21325	1	196
22	410	RESPORATORY SERVICES	9494076	21425	2	376
		PAGE 1 OF 2	CREATION DATE	22025	TOTALS	

	42 REV. CD.	43 DESCRIPTION	44 HCPCS / RATE / HIPPS CODE	45 SERV. DATE	46 SERV. UNITS	47 TOTAL CHARGES	48 NON-COVERED CHARGES	49	
1	0360		27130 LT	101321	1	28022 50	20058 33		1
2	0360		64447 XU LT	101321	1	28022 50	0 00		2
3	0370			101321	8	7720 00	0 00		3
4	0420		97110 GP CQ	101421	1	408 00	0 00		4
5	0420		97116 GP	101321	1	292 00	0 00		5
6	0420		97116 GP CQ	101421	1	292 00	0 00		6
7	0424		97161 GP	101321	1	979 00	175 83		7
8	0430		97535 GO	101421	1	227 00	0 00		8
9	0434		97166 GO	101421	1	837 00	170 49		9
10	0636		C9290	101321	266	7182 00	0 00		10
11	0636		J0690	101321	8	664 00	0 00		11
12	0636		J0690	101421	4	332 00	0 00		12
13	0636		J1100	101321	4	92 00	0 00		13
14	0636		J1741	101321	8	216 00	0 00		14
15	0636		J1885	101321	1	167 00	0 00		15
16	0636		J1885	101421	1	167 00	0 00		16
17	0636		J2250	101321	6	246 00	0 00		17
18	0636		J2370	101321	20	1300 00	0 00		18
19	0636		J2405	101321	8	1880 00	0 00		19
20	0636		J2704	101321	40	320 00	0 00		20
21	0636		J3010	101321	1	100 00	0 00		21
22	0636		J3370	101321	2	1616 00	0 00		22
23		PAGE 2 OF 3	CREATION DATE		TOTALS	147205 32	20456 65		23

REV CODE	PROCEDURE DESCRIPTION	HCPCS/ RATES	DATE	UNITS	CHARGE AMOUNT	NC CHARGE AMOUNT
0250	LOSARTAN 50 MG TAB		080522	1	13.57	
0250	MULTIPLE VITAMINS TAB		080522	1	7.11	
0250	VITAMIN B COMPLEX WITH C		080522	1	1.70	
0250	POLYETHYLENE GLYCOL 3350		080522	1	13.57	
0250	BISACODYL 10 MG SUPP		080522	1	16.28	
0250	METOCLOPRAMIDE 10 MG/2 M		080522	1	79.79	
0250	ACET-HYDROCODONE 325 MG-		080522	1	11.15	
0270	SLEEVE CURRIE CALF MED L		080222	1	37.70	
0270	SEALER BIPOLAR AQUAMANTY		080222	1	1339.95	
0270	MANIFOLD 4 PORT NEPTUNE-		080222	1	136.38	
0270	KIT PATIENT CARE W-HIP A		080222	1	299.20	
0271	LINE SAMPLE ORAL/NASAL N		080222	1	108.80	
0272	SODIUM CHLORIDE 0.9% 10		080222	5	69.70	
0272	SUTURE SILK 2-0 BLK BR F		080222	2	142.98	
0272	SUTURE VICRYL 3-0 CT-1 2		080222	2	142.98	
0272	SUTURE VICRYL 2-0 30INCH		080222	7	875.28	
0272	SUTURE MONOCRYL 3-0 PS-2		080222	3	214.47	
0272	ENDO CLIPS 11 INCH APPLI		080222	1	633.01	
0272	NEEDLE SPINAL QUINCKE 18		080222	1	44.40	
0272	ARISTA 3 GRAM W APPLICAT		080222	1	945.10	
0272	ELECTRODE DISPERSIVE DUA		080222	2	307.32	
0272	ELECTRODE BLADE ULTRA CL		080222	2	153.30	
0272	PACK CUSTOM BACK DES PER		080222	1	1181.71	
0272	SPONGE ABSORBABLE GELATI		080222	1	95.00	
0272	SUTURE PDS VIL MONO 1 OB		080222	24	2422.32	
0272	STAPLER SKIN DISP VISTA		080222	2	279.22	
0272	FLOSEAL HEMOSTATIC MATRI		080222	4	3407.16	
0272	APPLICATOR CHLORAPREP HI		080222	1	32.20	
0272	TRAY FOLEY DRAIN BAG W S		080222	1	302.98	
0272	BURR CARBIDE ROUND 5.0MM		080222	1	694.00	
0272	PACK UNIVERSAL		080222	1	61.00	
0278	KIT BONE GRAFT BMP EXTRA	C1713	080222	1	17191.50	
0278	IMPLANT SCREW POLYAXIAL	C1713	080222	6	17573.70	
0278	SET SCREW SINGLE INNER	C1713	080222	6	3482.46	
0278	SCREW CANNULATED LOCKING	C1713	080222	4	6542.20	
0278	COVERPLATE ASSEMBLY A LI	C1713	080222	1	840.00	
0278	SCREW A LINK Z 5.0MMX 25	C1713	080222	2	980.00	
0278	ROD PRELORDOSED WITH LIN	C1713	080222	2	1708.00	
0278	CAGE ANTERIOR INTERVERTE	C1889	080222	1	21028.50	
0278	CAGE ANTERIOR INTERVERTE	C1889	080222	1	12600.00	
0001	PAGE 3 OF 4			98	96015.69	