الرقم :   الاسم :

Problem 1 :

The number of customers that arrive to a bank in an interval of time has a Poisson distribution with mean 7

per hour customers per hour. Determine the time of arrival of the 6th customer by completing the table.

حدد زمن وصول الزبون <u>السادس</u> مستعينا بتكملة الجدول التالي .

k	u_k	t_k	x_i
1	0.2379		
2	0.7551		
3	0.2989		
4	0.2470		
5	0.3237		
6	0.2972		

Problem 2 : Consider the following set of $n = 50$ random numbers.

0.2379	0.7551	0.2989	0.247	0.3237
0.2972	0.8469	0.4566	0.6146	0.6723
0.9496	0.2268	0.8699	0.9084	0.5649
0.3045	0.6964	0.1709	0.3387	0.9804
0.1246	0.842	0.6557	0.9672	0.3356
0.3525	0.8075	0.9462	0.9583	0.3807
0.1489	0.5480	0.9537	0.9376	0.8364
0.5095	0.4047	0.9058	0.3795	0.6242
0.5195	0.6545	0.1117	0.3258	0.8589
0.6536	0.3427	0.6653	0.7864	0.5824

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Test the hypothesis that these numbers are drawn from U(0,1) at a 95% confidence

Interval ($\alpha = 0.05$) using the Chi-squared goodness of fit test ($n = 50,$ and $k = 10$).

استعمل الجدول التالي :

j	b_{j-1}	b_j	c_j	$\dfrac{\left(c_j - \frac{n}{k}\right)^2}{\frac{n}{k}}$
1	0.0	0.1		
2	0.1	0.2		
3	0.2	0.3		
4	0.3	0.4		
5	0.4	0.5		
6	0.5	0.6		
7	0.6	0.7		
8	0.7	0.8		
9	0.8	0.9		
10	0.9	1.0		

Problem 3 : Consider the following set of 20 random numbers (see table الجدول).

R_i	
0.2379	0.7551
0.2972	0.8469
0.9496	0.2268
0.3045	0.6964
0.1246	0.842
0.3525	0.8075
0.1489	0.5480
0.5095	0.4047
0.5195	0.6545
0.6536	0.3427

i	$R_{(i)}$	$\dfrac{i}{N} - R_{(i)}$	$R_{(i)} - \dfrac{(i-1)}{N}$
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Test the hypothesis that these numbers are drawn from U(0,1) at a 95% confidence Interval ($\alpha = 0.05$)

using the Kolmogorov-Smirnov test.