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**Question:** i need help with task 1 only. do it in minitab. provide steps pl...

ENM5005B/ENM5002A Engineering Statistics – Computer Test

**TASK**

The table below summarises the sales of a dietary product over the last 15 consecutive weeks.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bottles Sold	132	127	100	121	111	161	131	108	129	144	129	134	130	140	130

Task 1: (20%)

Construct a run chart with this data and comment whether any trends are apparent.

Task 2: (20%)

Produce a statistical summary for the sales data including relevant descriptive statistics and a histogram plot (use a bin width of 10 bottles).

Task 3: (20%)

Perform a normality test and discuss the evidence that the soft drinks sales data follows a normal distribution.

i need help with task 1 only. do it in minitab. provide steps please. thanks you in advance.

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**Expert Answer**Ujwala Gour answered this  
41 answers

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Solution:

**Task 1: Run chart for given data set.**In **Minitab** first enter the given data set .command for run chart: Choose **Stat > Quality Tools > Run Chart** .

The run chart table is open in that table ,

In **Single column**, enter Bottles Sold (variable)In **Subgroup size**, enter Weeks (variable).Click **Ok**.**output:****Post a question**

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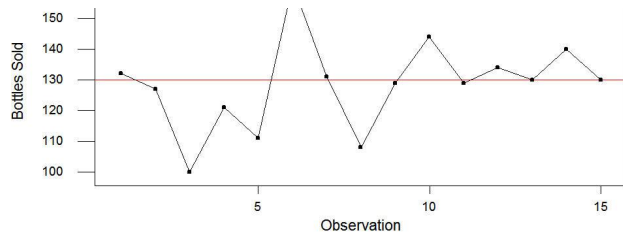
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Number of runs about median:	10.0000	Number of runs up or down:	11.0000
Expected number of runs:	8.2000	Expected number of runs:	9.6667
Longest run about median:	4.0000	Longest run up or down:	2.0000
Approx P-Value for Clustering:	0.8433	Approx P-Value for Trends:	0.8081
Approx P-Value for Mixtures:	0.1567	Approx P-Value for Oscillation:	0.1919

**Interpretation:**

The data appears to be randomly distributed with no temporal patterns.

In above Run chart,

a) the Approx P-value for Clustering is 0.8433 and Approx P-value for Mixtures is 0.1567.

The both P-values are greater than 0.05.

We conclude that, the data does not indicate Clusters or Mixtures.

b) The Approx P-value for Trends = 0.8081

Approx P-value for Oscillation = 0.1919

We can see that both P-values are greater than 0.05.

So, we conclude the data does not indicate a trend or Oscillation.

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