

Label encoding	How it is work	Ex:	Hypotheses	not appropriate																																																						
Ordinal encoding	Assign each categorical value an integer value based on alphabetical order.	<div><div><table><caption>Original Data</caption><thead><tr><th>Team</th><th>Points</th></tr></thead><tbody><tr><td>A</td><td>25</td></tr><tr><td>A</td><td>12</td></tr><tr><td>B</td><td>15</td></tr><tr><td>B</td><td>14</td></tr><tr><td>B</td><td>19</td></tr><tr><td>B</td><td>23</td></tr><tr><td>C</td><td>25</td></tr><tr><td>C</td><td>29</td></tr></tbody></table></div><div>→</div><div><table><caption>Label Encoded Data</caption><thead><tr><th>Team</th><th>Points</th></tr></thead><tbody><tr><td>0</td><td>25</td></tr><tr><td>0</td><td>12</td></tr><tr><td>1</td><td>15</td></tr><tr><td>1</td><td>14</td></tr><tr><td>1</td><td>19</td></tr><tr><td>1</td><td>23</td></tr><tr><td>2</td><td>25</td></tr><tr><td>2</td><td>29</td></tr></tbody></table></div></div>	Team	Points	A	25	A	12	B	15	B	14	B	19	B	23	C	25	C	29	Team	Points	0	25	0	12	1	15	1	14	1	19	1	23	2	25	2	29		if the original categorical variable actually is not <u>ordinal variable</u> .																		
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One-hot encoding	Create new variables that take on values 0 and 1 to represent the original categorical values.	<div><div><table><caption>Original Data</caption><thead><tr><th>Team</th><th>Points</th></tr></thead><tbody><tr><td>A</td><td>25</td></tr><tr><td>A</td><td>12</td></tr><tr><td>B</td><td>15</td></tr><tr><td>B</td><td>14</td></tr><tr><td>B</td><td>19</td></tr><tr><td>B</td><td>23</td></tr><tr><td>C</td><td>25</td></tr><tr><td>C</td><td>29</td></tr></tbody></table></div><div>→</div><div><table><caption>One-Hot Encoded Data</caption><thead><tr><th>Team_A</th><th>Team_B</th><th>Team_C</th><th>Points</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>0</td><td>25</td></tr><tr><td>1</td><td>0</td><td>0</td><td>12</td></tr><tr><td>0</td><td>1</td><td>0</td><td>15</td></tr><tr><td>0</td><td>1</td><td>0</td><td>14</td></tr><tr><td>0</td><td>1</td><td>0</td><td>19</td></tr><tr><td>0</td><td>1</td><td>0</td><td>23</td></tr><tr><td>0</td><td>0</td><td>1</td><td>25</td></tr><tr><td>0</td><td>0</td><td>1</td><td>29</td></tr></tbody></table></div></div>	Team	Points	A	25	A	12	B	15	B	14	B	19	B	23	C	25	C	29	Team_A	Team_B	Team_C	Points	1	0	0	25	1	0	0	12	0	1	0	15	0	1	0	14	0	1	0	19	0	1	0	23	0	0	1	25	0	0	1	29		if the original categorical variable actually is an <u>ordinal variable</u> .
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