In [1]:
```
# Install Japanese fonts for proper rendering
!apt-get -qq install -y fonts-noto-cjk fonts-ipafont
import os, sys
print("Python:", sys.version, os.getcwd())

# Install core libraries
!pip -q install numpy pandas matplotlib seaborn
import numpy as np, pandas as pd, matplotlib, seaborn as sns
print("numpy:", np.__version__, "pandas:", pd.__version__, "matplotlib:", matplotlib.__version__, "seaborn:", sns.__version__)

# Install Japanese font support for matplotlib
!pip -q install japanize-matplotlib
import japanize_matplotlib
print("japanize_matplotlib installed")
```

```
Python: 3.11.13 (main, Jun 4, 2025, 08:57:29) [GCC 9.4.0] /content
numpy: 2.0.2 pandas: 2.2.2 matplotlib: 3.10.0 seaborn: 0.13.2
japanize_matplotlib installed
```

In [2]:
```
# Clone the repo if not already present
!git clone https://github.com/kaji-lab/2025-IT-Literacy
%cd 2025-IT-Literacy
import os, glob, pandas as pd, numpy as np, matplotlib.pyplot as plt, seaborn as sns
sns.set_style("whitegrid")
plt.rcParams['figure.dpi'] = 100
plt.rcParams['savefig.dpi'] = 150
plt.rcParams['font.sans-serif'] = ['Noto Sans CJK JP', 'IPAGothic', 'DejaVu Sans']
plt.rcParams['axes.unicode_minus'] = False
print("Available sheets:", ["students_survey", "faculty_survey", "students_interv", "faculty_i
```

```
fatal: destination path '2025-IT-Literacy' already exists and is not an empty directory.
/content/2025-IT-Literacy
Available sheets: ['students_survey', 'faculty_survey', 'students_interv', 'faculty_i
```

In [3]:
```
df = pd.read_excel('students_survey.xlsx')
print("shape:", df.shape)
display(df.head(5))
```

```
shape: (1000, 15)
```

	ID	Timestamp	Completion time	Email	Name	What age are you?	Are you a boy or girl?	Which grade are you in college when you first encountered computer science?	What subjects do you like or dislike when you study computer science?	How confident are you in your coding ability?	How do you feel about each exercise in computer science?	Do you prefer to use the latest exercise or a well-established exercise?	Do you prefer to do exercises that you feel about each exercise or	Which STEM area would you prefer to work in the future?	Compared to most of your other school subjects, how good do you think you are in coding?	I think that girls usually do well in technology.	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	What do you think you can do if you are stuck?	Do you ever make any computer science course in the past? If yes, write in "other."	Do you ever take any computer science course in the past? If yes, write in "other." The app you were once you did the coding course JAVE write the language(s), technologies, software you
0	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Girl	Freshman	Not liked	Little confident	...	Unexplored don't know	...	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Neither Agree nor Disagree	0	Ask friends	No	Not sure
1	2	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Boy	Freshman	Not sure	Quite confident	...	Familiar/prefer	Familiar	Engineering (Mechanical, Electrical, Civil, Architecture)	4	Agree	Agree	50	Ask friends	No	Other: Ruby
2	3	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Boy	Freshman	Not sure	Not at all confident	...	Familiar	Familiar	Mathematics (e.g., Statistics, Algebra, Calculus)	4	Agree	Agree	50	Ask friends	No	Other: Ruby
3	4	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	19	Boy	Freshman	Not sure	Not at all confident	...	Familiar	Unexplored don't know	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Strongly Agree	0	Ask friends	No	Other: Ruby, Java, psc
4	5	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	19	Girl	Freshman	Not sure	Not at all confident	...	Familiar	Unexplored don't know	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Strongly Agree	0	Ask friends	No	Other: Ruby

Showing 5 of 1000 rows

In [4]:
```
/content/2025-IT-Literacy
```

```
/content/2025-IT-Literacy
```

In [5]:
```
df.shape, df.dtypes.value_counts()
```

```
(1000, 15)
object    12
int64      3
Name: count, dtype: int64
```

In [6]:
```
df.isnull().sum()
```

```
ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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Completion time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
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Name                                                                                                                                                                                                                                                                                                                                                                                                                                                
What age are you?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
Are you a boy or girl?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
What grade are you in college when you first encountered computer science?                                                                                                                                                                                                                                                                                
What subjects do you like or dislike when you study computer science?                                                                                                                                                                                                                                                                                
How confident are you in your coding ability?                                                                                                                                                                                                                                                                                                
How do you feel about each exercise in computer science?                                                                                                                                                                                                                                                                                
Do you prefer to use the latest exercise or a well-established exercise?                                                                                                                                                                                                                                                                
Do you prefer to do exercises that you feel about each exercise or a well-established exercise?                                                                                                                                                                                                                                
Which STEM area would you prefer to work in the future?                                                                                                                                                                                                                                                                                
Compared to most of your other school subjects, how good do you think you are in coding?                                                                                                                                                                                                                                
I think that girls usually do well in technology.                                                                                                                                                                                                                                                                                
I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                                                                                
I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                                                                                
What do you think you can do if you are stuck?                                                                                                                                                                                                                                                                                
Do you ever make any computer science course in the past? If yes, write in "other."                                                                                                                                                                                                                                
Do you ever take any computer science course in the past? If yes, write in "other." The app you were once you did the coding course JAVE write the language(s), technologies, software you                                                                                                                                
dtype: int64
```

In [7]:
```
df.sample(5)
```

	ID	Timestamp	Completion time	Email	Name	What age are you?	Are you a boy or girl?	What grade are you in college when you first encountered computer science?	What subjects do you like or dislike when you study computer science?	How confident are you in your coding ability?	How do you feel about each exercise in computer science?	Do you prefer to use the latest exercise or a well-established exercise?	Do you prefer to do exercises that you feel about each exercise or	Which STEM area would you prefer to work in the future?	Compared to most of your other school subjects, how good do you think you are in coding?	I think that girls usually do well in technology.	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	What do you think you can do if you are stuck?	Do you ever make any computer science course in the past? If yes, write in "other."	Do you ever take any computer science course in the past? If yes, write in "other." The app you were once you did the coding course JAVE write the language(s), technologies, software you
0	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Girl	Freshman	Not liked	Little confident	...	Familiar/prefer	Familiar	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Neither Agree nor Disagree	0	Ask friends	No	Not sure
1	2	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Boy	Freshman	Not sure	Quite confident	...	Familiar/prefer	Familiar	Engineering (Mechanical, Electrical, Civil, Architecture)	4	Agree	Agree	50	Ask friends	No	Other: Ruby
2	3	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Boy	Freshman	Not sure	Not at all confident	...	Familiar	Familiar	Mathematics (e.g., Statistics, Algebra, Calculus)	4	Agree	Agree	50	Ask friends	No	Other: Ruby
3	4	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	19	Boy	Freshman	Not sure	Not at all confident	...	Familiar	Unexplored don't know	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Strongly Agree	0	Ask friends	No	Other: Ruby, Java, psc
4	5	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	19	Girl	Freshman	Not sure	Not at all confident	...	Familiar	Unexplored don't know	Science (e.g. Biology, Chemistry, Physics)	4	Agree	Strongly Agree	0	Ask friends	No	Other: Ruby

Showing 5 of 1000 rows

In [8]:
```
/content/2025-IT-Literacy
```

```
/content/2025-IT-Literacy
```

In [9]:
```
df.describe(include='object')
```

	ID	Timestamp	Completion time	Email	Name	What age are you?	Are you a boy or girl?	What grade are you in college when you first encountered computer science?	What subjects do you like or dislike when you study computer science?	How confident are you in your coding ability?	How do you feel about each exercise in computer science?	Do you prefer to use the latest exercise or a well-established exercise?	Do you prefer to do exercises that you feel about each exercise or	Which STEM area would you prefer to work in the future?	Compared to most of your other school subjects, how good do you think you are in coding?
count	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
unique	1000	1000	1000	1000	1000	4	3	3	5	5	5	3	3	5	5
top	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	18	Boy	Freshman	Not sure	Quite confident	Familiar	Familiar	Familiar	Science (e.g. Biology, Chemistry, Physics)	4
freq	1	1	1	1	1	500	400	500	200	200	200	500	500	200	200

In [10]:
```
df.describe(include=['int64', 'float64'])
```

	What grade are you in college when you first encountered computer science?	Are you a boy or girl?	What subjects do you like or dislike when you study computer science?	What grade are you in college when you first encountered computer science?	How confident are you in your coding ability?	How do you feel about each exercise in computer science?	How confident are you in your coding ability?	How do you feel about each exercise in computer science?	Do you prefer to use the latest exercise or a well-established exercise?	Do you prefer to do exercises that you feel about each exercise or a well-established exercise?	Which STEM area would you prefer to work in the future?	Compared to most of your other school subjects, how good do you think you are in coding?
count	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
mean	1.000	1.000	3.000	1.000	3.000	3.000	3.000	3.000	2.000	2.000	3.000	3.000
std	0.000	0.000	1.414	0.000	1.414	1.414	1.414	1.414	0.000	0.000	1.414	1.414
min	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	2.000	2.000	1.000	1.000
25%	1.000	1.000	2.000	1.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
50%	1.000	1.000	3.000	1.000	3.000	3.000	3.000	3.000	2.000	2.000	3.000	3.000
75%	1.000	1.000	4.000	1.000	4.000	4.000	4.000	4.000	2.000	2.000	4.000	4.000
max	1.000	1.000	5.000	1.000	5.000	5.000	5.000	5.000	3.000	3.000	5.000	5.000

In [11]:
```
/content/2025-IT-Literacy
```

```
/content/2025-IT-Literacy
```

In [12]:
```
df = pd.read_excel('students_interv.xlsx')
print("shape:", df.shape)
display(df.head(5))
```

```
shape: (1000, 15)
```

	ID	Start time	Completion time	Email	Name	Are you from any of the technology-focused technology-related fields? (Please choose no more or less)	Do you think that technology-related fields are very difficult? (Rating: 0 very, 100 very difficult)	Do you have a qualification in a science, technology, engineering or mathematics (STEM) field?	If yes, what is your qualification?	Which course do you study in?	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)
0	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes	22	Business	Another field not in Data	A Little 7	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
1	2	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes	Not Recognized Enrollee	22, 23	Business	Data	Hard	7	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	7
2	3	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	No, Prior to this course, access to a STEM course	No	Nakl	Business	Data	Easy	7	50	70	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
3	4	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes, Concentrated and Specialized Degree	Yes	Science in Human Kinetics	2nd semester	Data	Somewhat Easy	4	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
4	5	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Technology is a two-edged sword. You may ...	Yes	Nutritional sciences with medical school level sci...	Business	Data	Hard	4	70	80	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4

Showing 5 of 1000 rows

In [13]:
```
/content/2025-IT-Literacy
```

```
/content/2025-IT-Literacy
```

In [14]:
```
df.shape, df.dtypes.value_counts()
```

```
(1000, 27)
object    15
int64     12
Name: count, dtype: int64
```

In [15]:
```
df.isnull().sum()
```

```
ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
Start time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
Completion time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
Email                                                                                                                                                                                                                                                                                                                                                
Name                                                                                                                                                                                                                                                
Are you from any of the technology-focused technology-related fields? (Please choose no more or less)                                                                                                                                                
Do you think that technology-related fields are very difficult? (Rating: 0 very, 100 very difficult)                                                                                                                                
Do you have a qualification in a science, technology, engineering or mathematics (STEM) field?                                                                                                                                
If yes, what is your qualification?                                                                                                                                
Which course do you study in?                                                                                                                                
Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)                                                                                                                                
Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)                                                                                                                                
Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)                                                                                                                                
I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                
I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                
I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                
I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very                                                                
Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)                                                                
Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)                                                                
Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)                                                                
Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)                                                                
Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)                                                                
dtype: int64
```

In [16]:
```
df.sample(5)
```

	ID	Start time	Completion time	Email	Name	Are you from any of the technology-focused technology-related fields? (Please choose no more or less)	Do you think that technology-related fields are very difficult? (Rating: 0 very, 100 very difficult)	Do you have a qualification in a science, technology, engineering or mathematics (STEM) field?	If yes, what is your qualification?	Which course do you study in?	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)
0	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes	22	Business	Another field not in Data	A Little 7	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
1	2	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes	Not Recognized Enrollee	22, 23	Business	Data	Hard	7	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	7
2	3	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	No, Prior to this course, access to a STEM course	No	Nakl	Business	Data	Easy	7	50	70	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
3	4	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes, Concentrated and Specialized Degree	Yes	Science in Human Kinetics	2nd semester	Data	Somewhat Easy	4	100	100	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
4	5	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Technology is a two-edged sword. You may ...	Yes	Nutritional sciences with medical school level sci...	Business	Data	Hard	4	70	80	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4

Showing 5 of 1000 rows

In [17]:
```
df.describe(include='object')
```

	ID	Start time	Completion time	Email	Name	Are you from any of the technology-focused technology-related fields? (Please choose no more or less)	Do you think that technology-related fields are very difficult? (Rating: 0 very, 100 very difficult)	Do you have a qualification in a science, technology, engineering or mathematics (STEM) field?	If yes, what is your qualification?	Which course do you study in?	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	Please select the options in the scale below that reflects your opinion on the following statements. (Only one option)	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)	Finally, Select Never one if STEM subjects in School Section. For each one please indicate how confident you felt in each subject. (Rating: 0 Very Low, 100 Very High)
count	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
unique	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
top	1	2025-05-13 15:42:12	2025-05-13 15:44:03	anonymous	Nakl	Smartphone,Pad/Tablet,Laptop Computer,Desktop Computer,Other(please specify): Kindle	Yes	Nakl	Business	Data	Hard	Easy	Somewhat Easy	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4	Neutral 4
freq	1	1	1	1	1	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

In [18]:
```
df.describe(include=['int64', 'float64'])
```

	Email	Smartphone	Pad/Tablet	Laptop computer	Desktop computer	Other(please specify): Kindle	Will internet	Do you think that technology-related fields are very difficult? (Rating: 0 very, 100 very difficult)	Do you have a qualification in a science, technology, engineering or mathematics (STEM) field?	If yes, what is your qualification?	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very much	I think that girls usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very much	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very much	I think that boys usually do well in technology. Please rate how much you agree with this statement on a scale from 0 to 100 by writing a number in the box, where 0 is not at all and 100 is very much	Science	Technology	Maths	Engineering	Computing	Interdisciplinary	Source of Interest	Comp.
count	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1000.0
mean	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0
std	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2025-05-13 15:44:18 CET	0.0	0.0
min	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0
25%	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0
50%	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0
75%	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0
max	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	100.0	100.0	100.0	100.0	100.0	4.0	4.0	4.0	4.0	4.0	2025-05-13 15:44:18 CET	0.0	1.0

Showing 8 of 27 columns