

[LU:NEX]

Using text-based games for story-driven simulation in education

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We care, you succeed, join the LUNEX experience!



SDS: virtual patients

Interactive computer simulations in experimental learning theory provide a safe environment for:

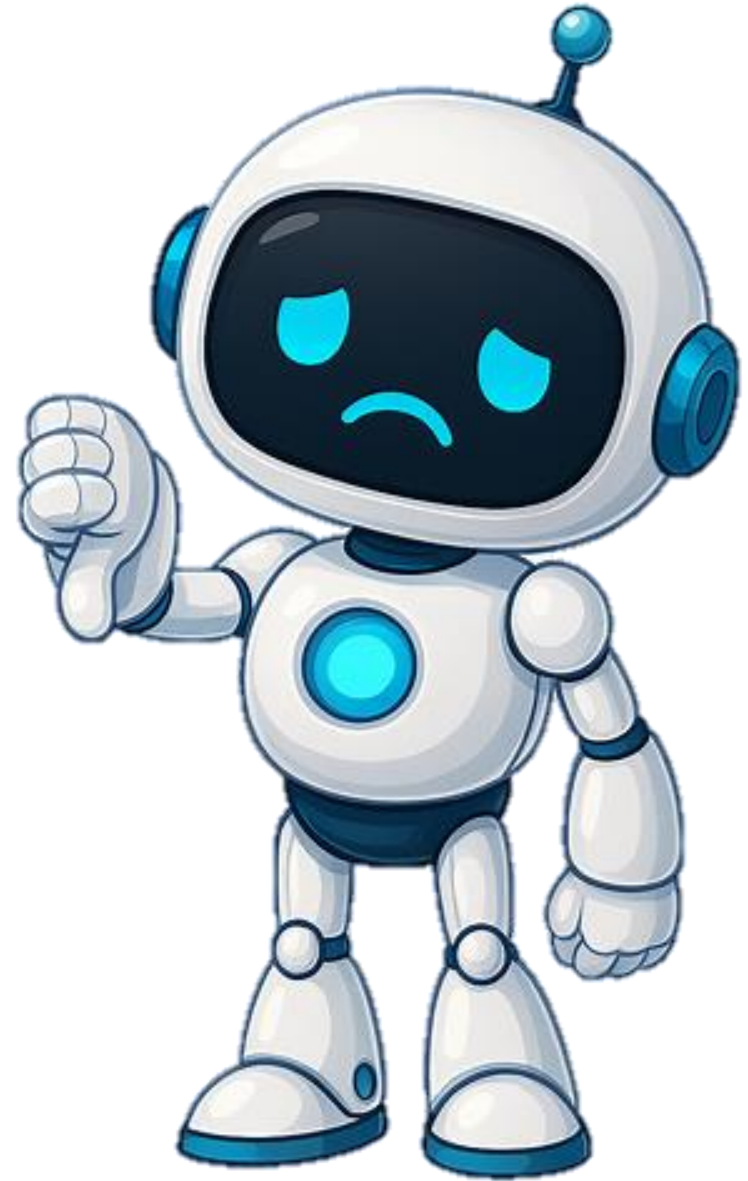
- Exposure to clinical situations
- Assessment of patients
- Information gathering
- Diagnostic processes
- Clinical decision making



SDS: virtual patients

SDS should not aim to:

- Substitute experiences with real patients, but complement them
- Drive teaching objectives, but be used as a tool to generate a safe environment
- Not conclude the learning experience, but initiate clinical discussions



Twine

twinery.org



Twine is an open-source tool for telling interactive, nonlinear stories.

You don't need to write any code to create a simple story with Twine, but you can extend your stories with variables, conditional logic, images, CSS, and JavaScript when you're ready.

Twine publishes directly to HTML, so you can post your work nearly anywhere. Anything you create with it is completely free to use any way you like, including for commercial purposes.



Download desktop app



Use in your browser

The latest version of Twine is 2.10.0, released 24 November 2024.

Looking for the 1.x version of Twine? It's on the [IF Archive](#).

Creating a story

1. Learning objectives

- Knowledge
- Understanding
- Analysis
- Reasoning
- Decision-making



Creating a story

2. Format of story line

- Linear
- Convergent
- Multilinear



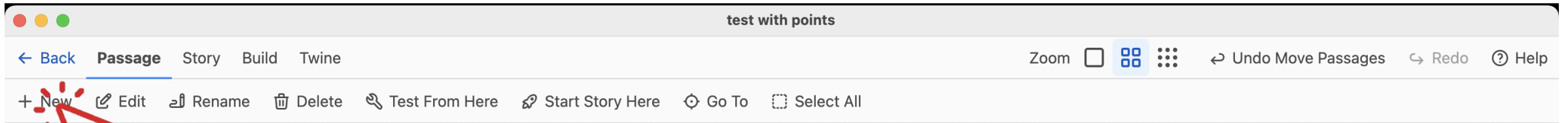
Creating a story

3. Outcomes and feedback

- Providing feedback based on performance
- Short description
- Advice and reflection



Creating new passages



Creating new passages

test with points

← Back

Passage

Story

Build

Twine

Zoom

↶ Undo Move Passages

↷ Redo

🔗 Help

+ New

Edit

Rename

Delete

Test From Here

Start Story Here

Go To

Select All

← Back

Passage

Story

Build

Twine

+ New

Edit (4)

Rename

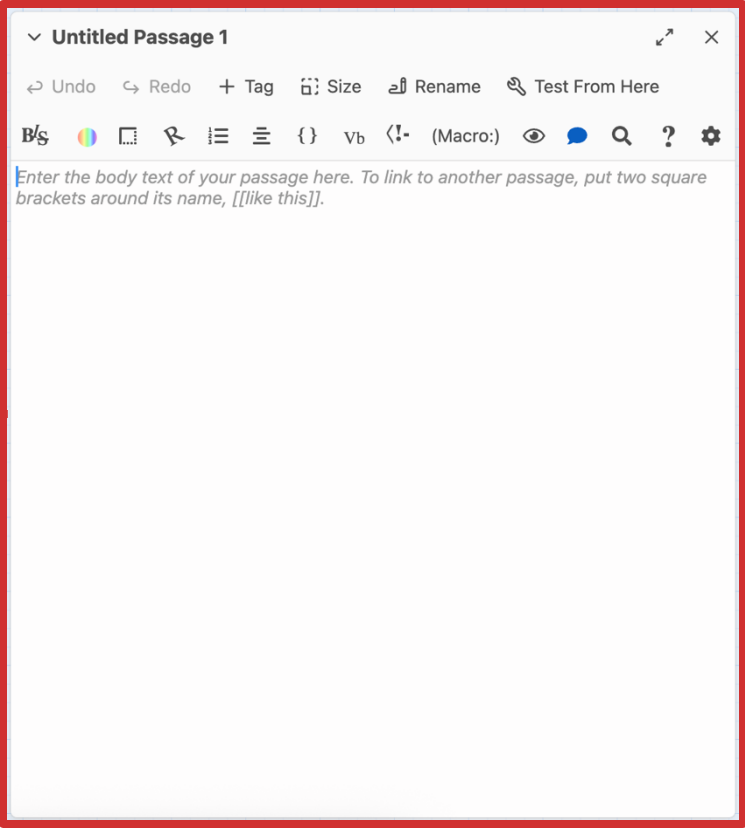
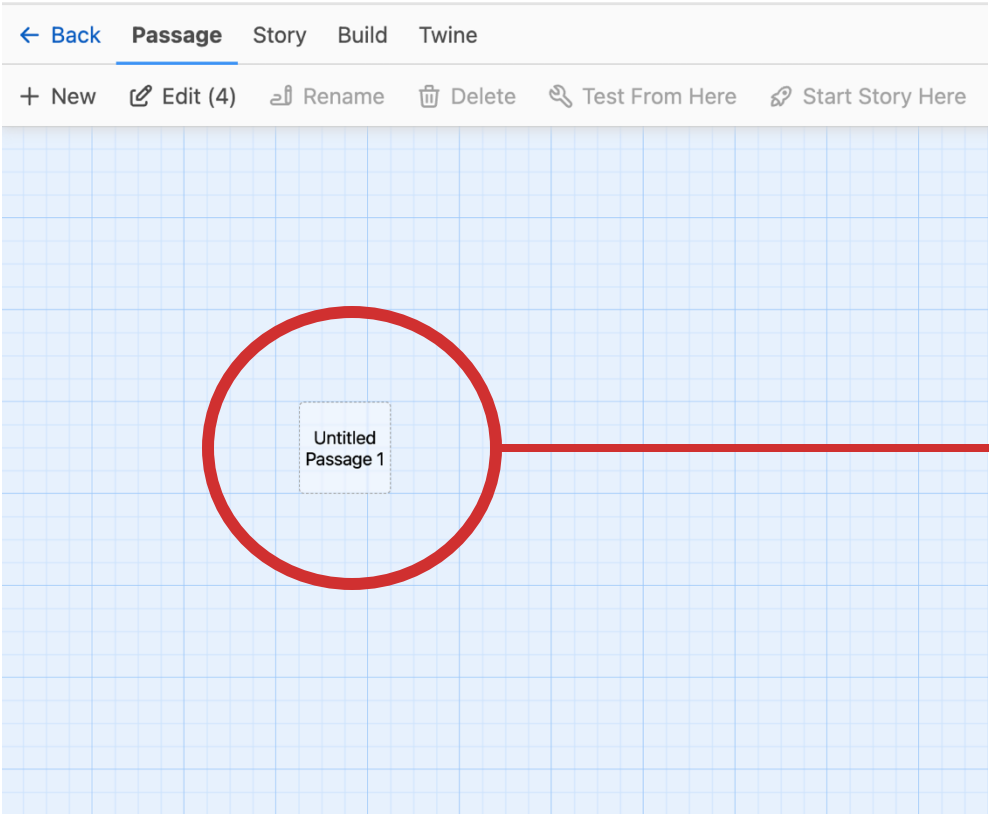
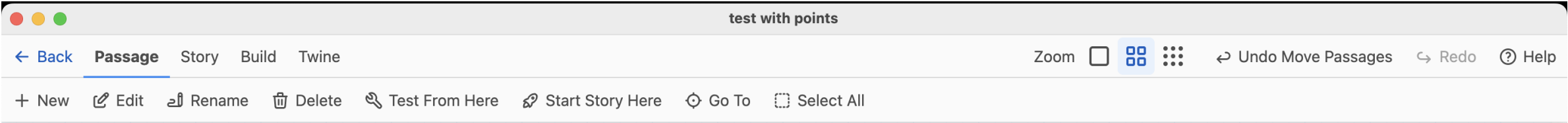
Delete

Test From Here

Start Story Here

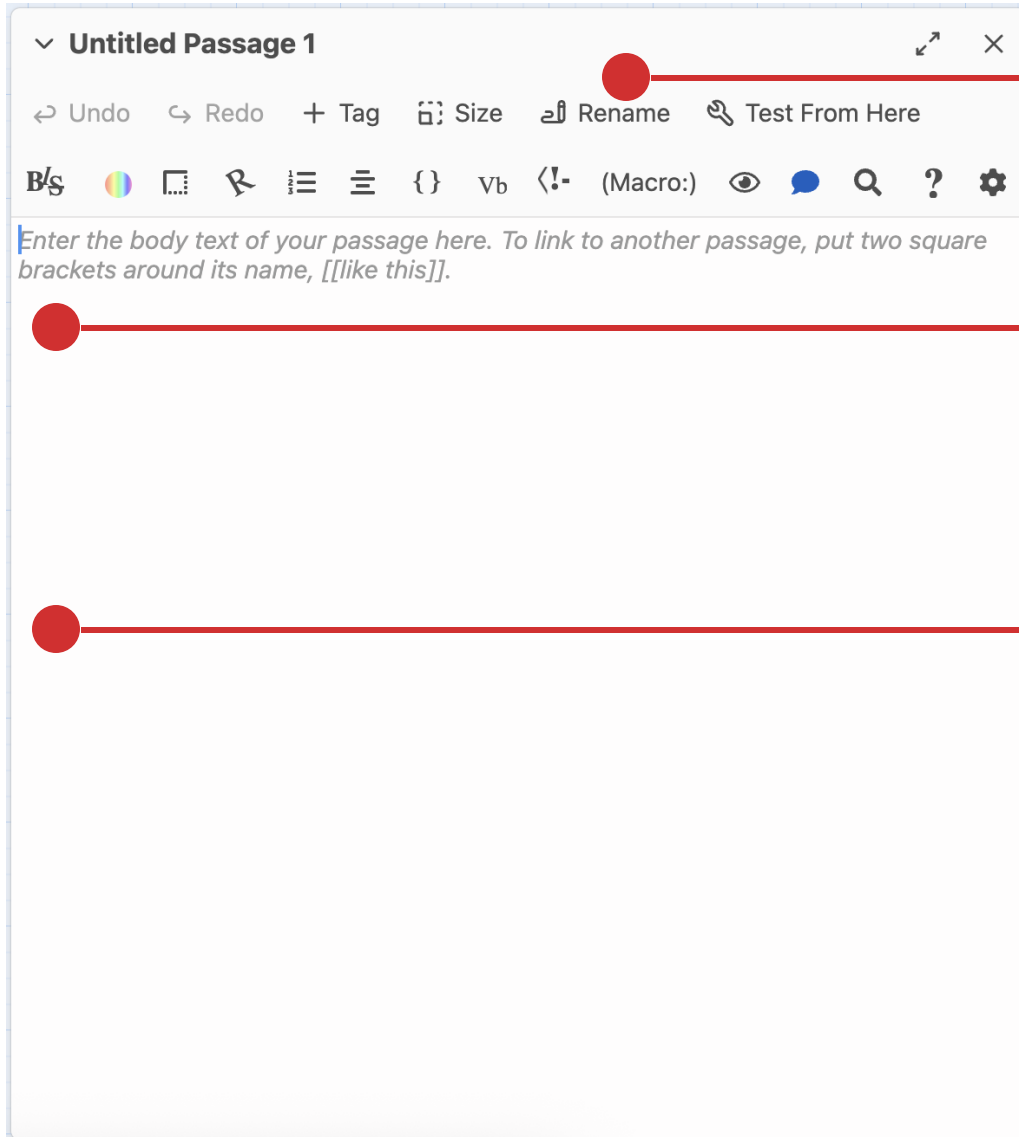
Untitled
Passage 1

Creating new passages



Describe what is happening in the story and ask what the student would like to do

Editing a passage



Name the passage:

- Prefer a short name
- Choose a name that reflects the flow of the story

Describe what is happening in the story and ask what the student would like to do

Links:

(link: “text”) [(go-to:“Next”)]

(link: “text”) [[Continue-> Next]]

Scores and results

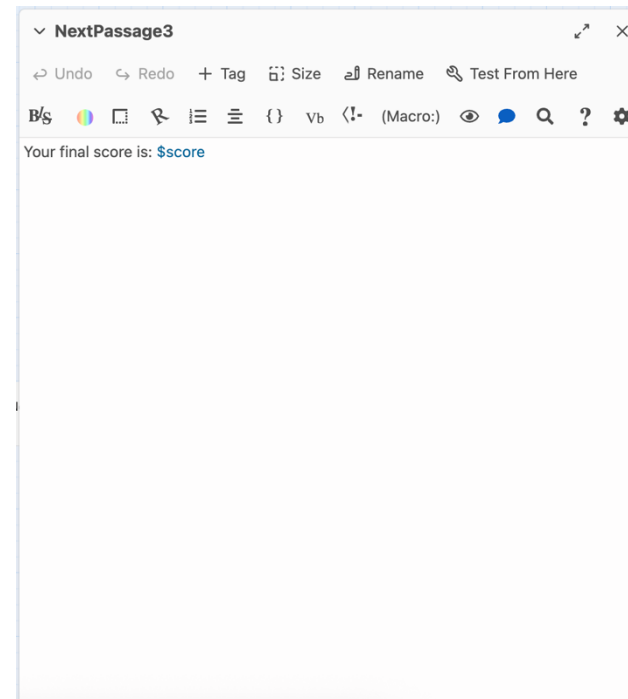
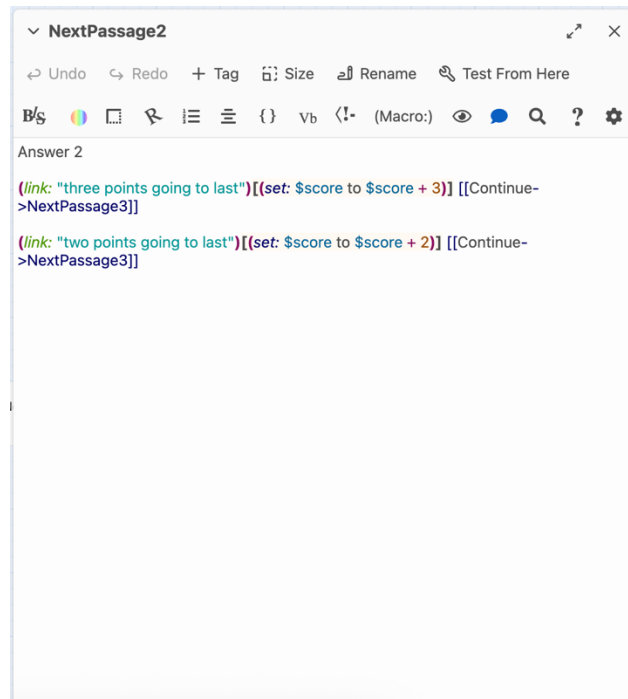
Links:

(link: “text”) [set: \$score to \$score + 1] (go-to: “next”)]

(link: “text”) [set: \$score to \$score + 1)] [[Continue->next]]

On the last passage:

Your final score is: \$score

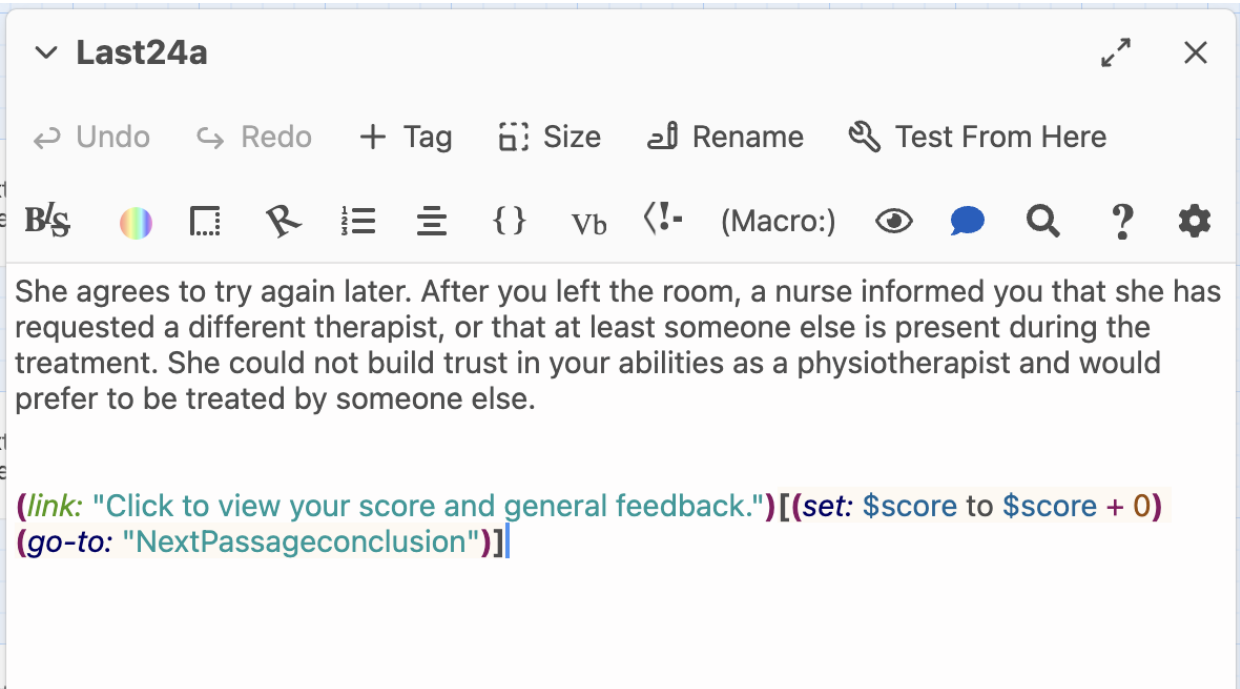
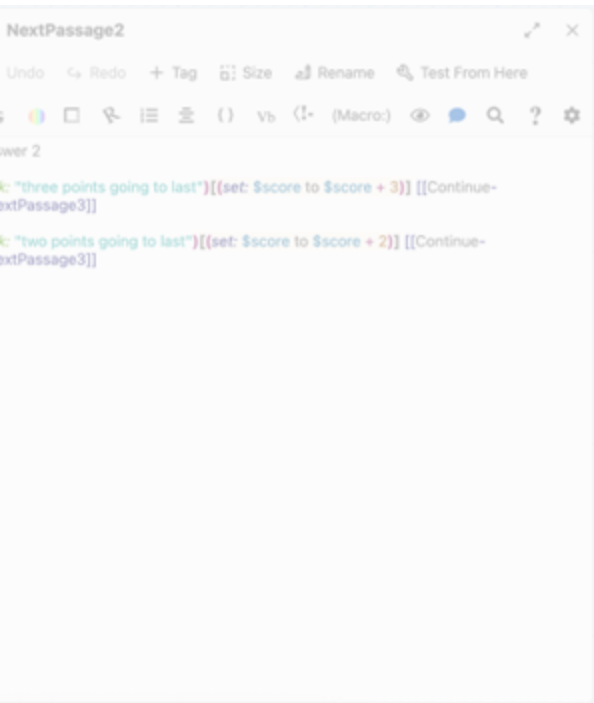


Scores and results

On the second last passage:

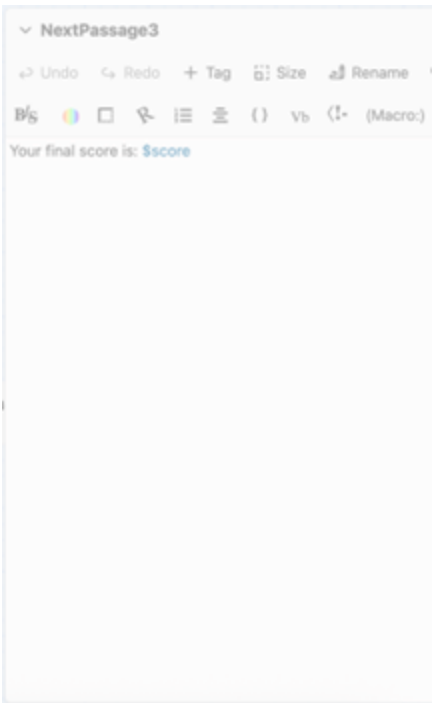
Leave a general feedback or a comment on how the story proceeds and give the option:

(link: “[click here to view your score and feedback](#)”) [(set: \$score to \$score + 0) (go-to: “final passage”)]

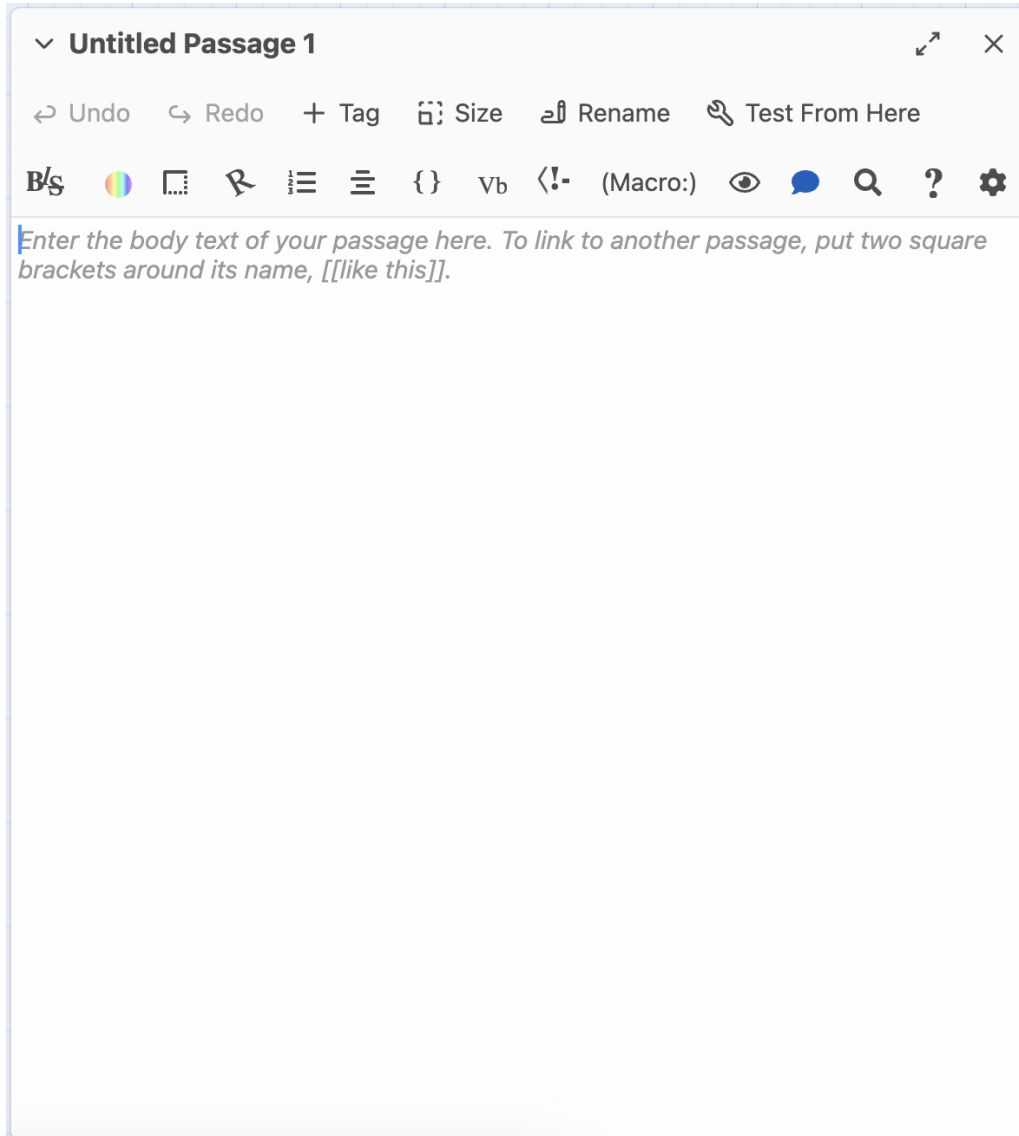


On the last passage

Your final score is: \$

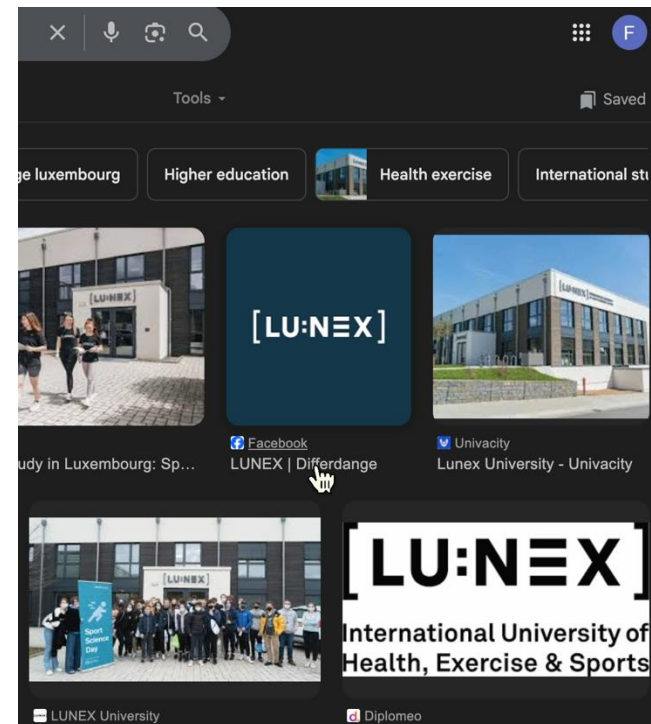


Images

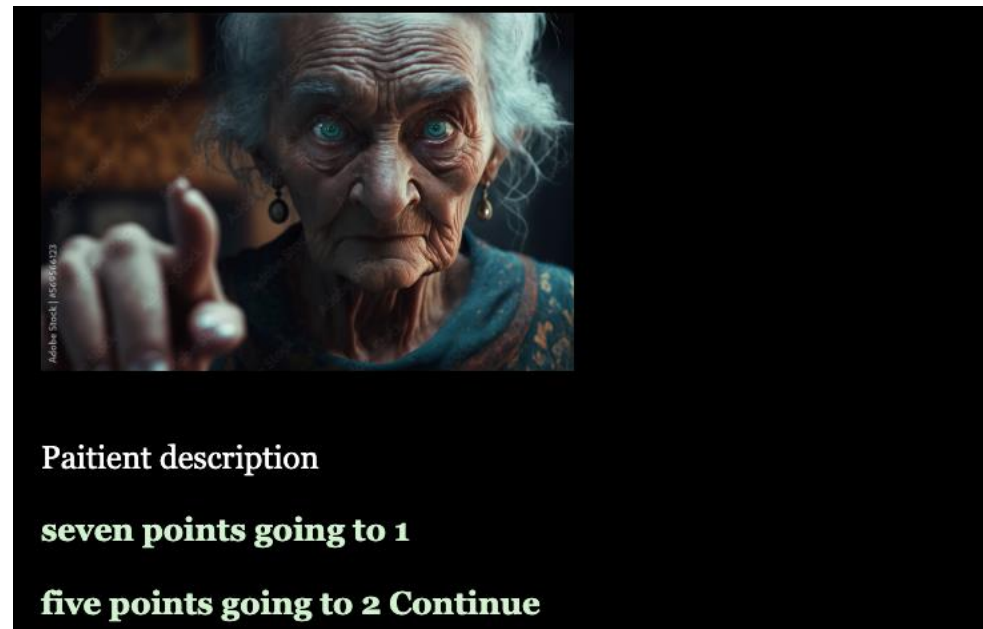
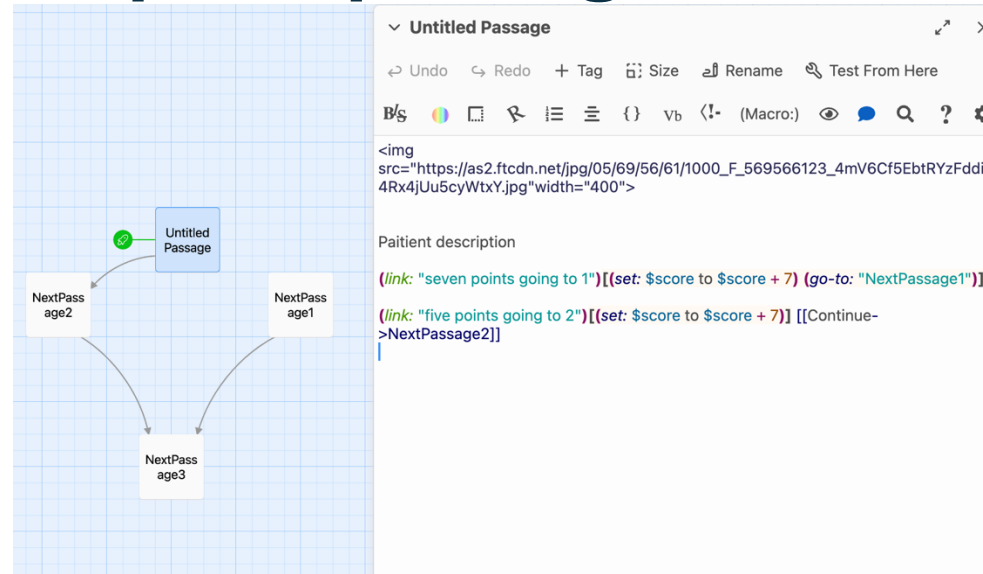


Before or after the description, add:

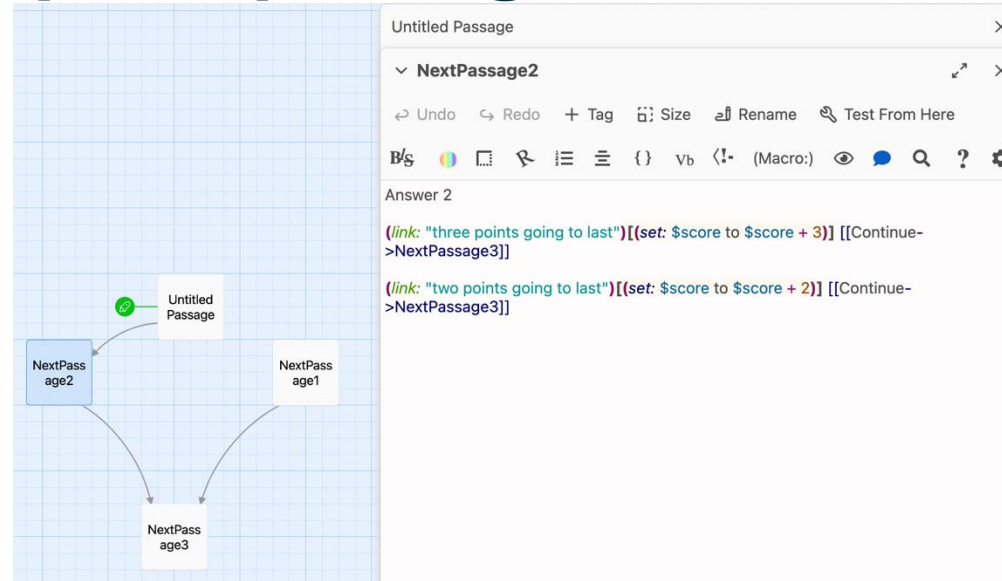
``



Example with complete passages



Example with complete passages

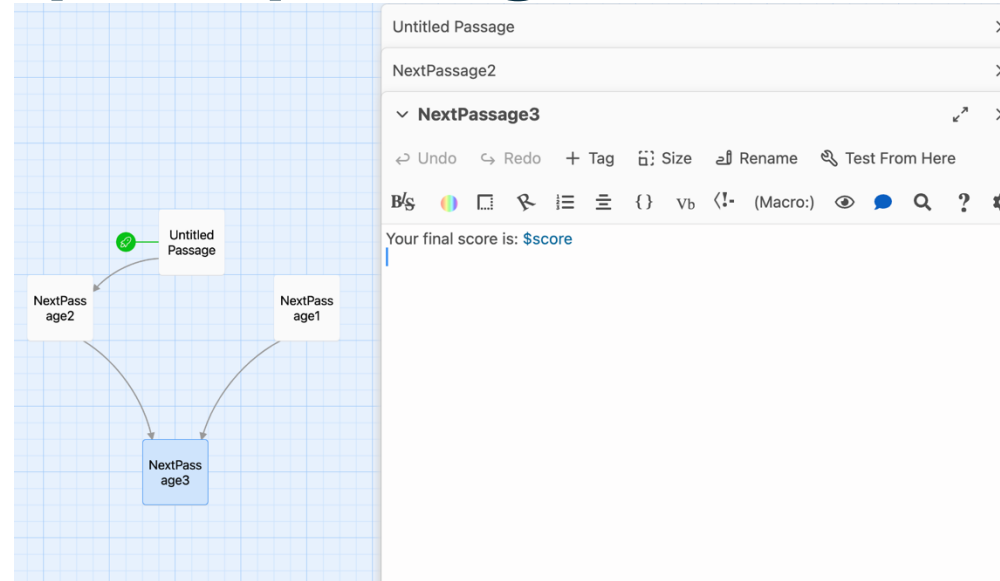


Answer 2

three points going to last Continue

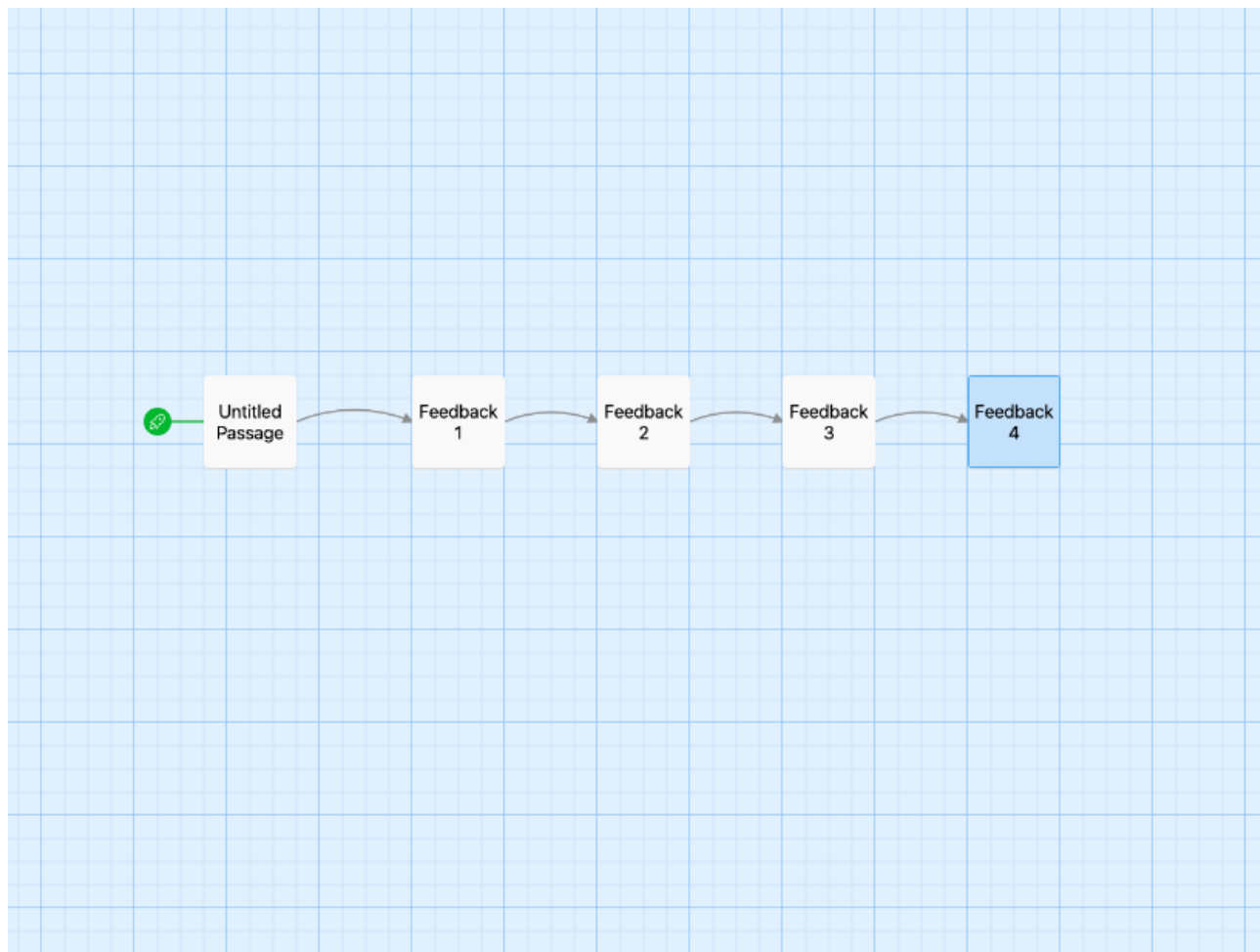
two points going to last Continue

Example with complete passages



Your final score is: 10

Storyline visualization: linear



Feedback 1

Undo Redo + Tag Size Rename Test From Here

B/S [Color] [Grid] [Eraser] [List] [Menu] [Brackets] Vb <!-- (Macro:) [Eye] [Chat] [Search] [Help] [Settings]

description

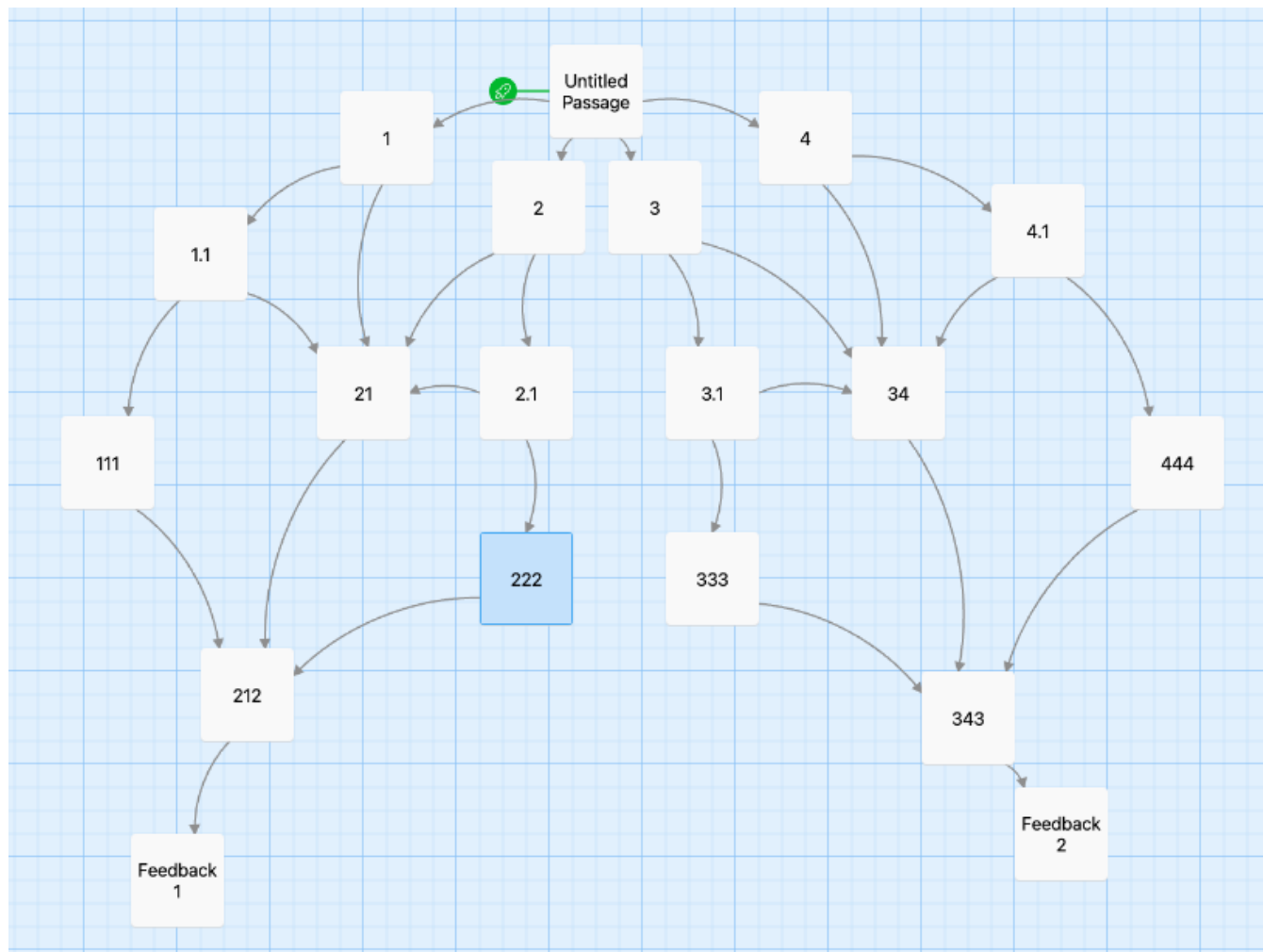
(link: "option 1")[(set: \$score to \$score + 0)] [[Continue->Feedback 2]]

(link: "option 2")[(set: \$score to \$score + 2)] [[Continue->Feedback 2]]

(link: "option 3")[(set: \$score to \$score + 4)] [[Continue->Feedback 2]]

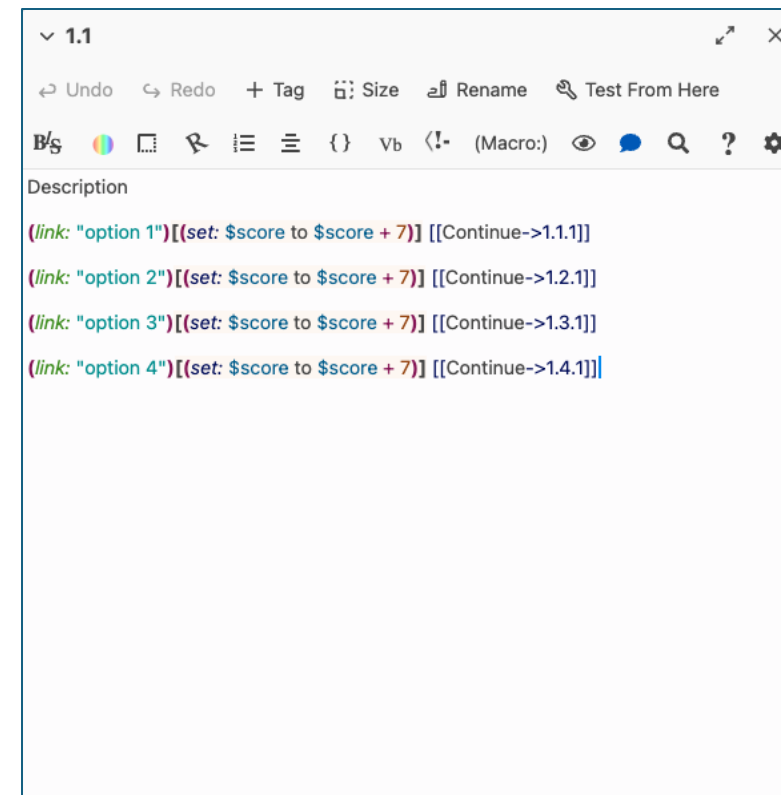
(link: "option 4")[(set: \$score to \$score - 2)] [[Continue->Feedback 2]]

Story paths visualization: converging line

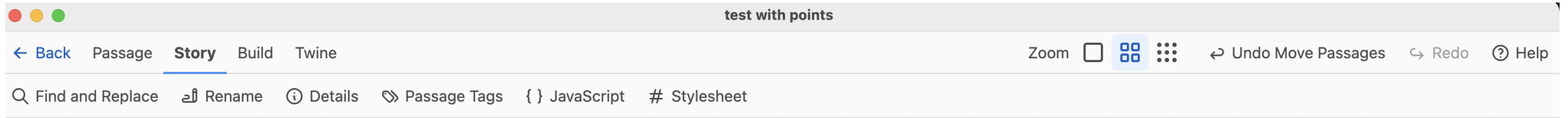


```
1.1
Description

(link: "option 1")[(set: $score to $score + 7)] [[Continue->111]]
(link: "option 2")[(set: $score to $score + 7)] [[Continue->111]]
(link: "option 3")[(set: $score to $score + 7)] [[Continue->111]]
(link: "option 4")[(set: $score to $score + 7)] [[Continue->21]]
```



Setting colors



```
▼ Story Stylesheet
↶ Undo  ↷ Redo  ⇧ Indent  ⇩ Unindent

tw-sidebar {display: none;}
tw-story {color: #ffffff; /* Main text color (white) */background-
color: #000000; /* Optional: background color */}
tw-link, .enchantment-link {color: #daf5d5; /* Link color (bright
yellow) */}
tw-link:hover, .enchantment-link:hover {color: #ff9900; /*
Hovercolor */}
.visited {color: #999999; /* Visited link color */}
.visited:hover {color: #cccccc; /* Hover on visited link */}
```

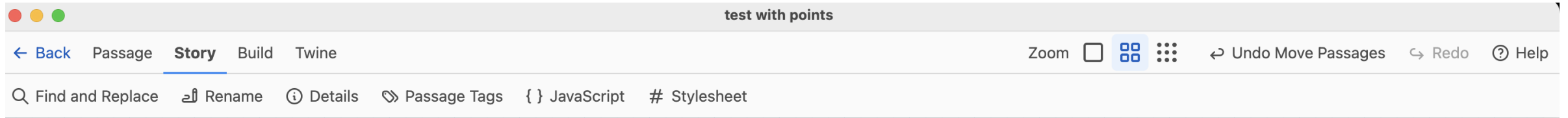
tw-sidebar

tw-story

tw-link

tw-link:hover

Setting colors



```
▼ Story Stylesheet
↶ Undo ↷ Redo ≡ Indent ≡ Unindent

tw-sidebar {display: none;}
tw-story {color: #ffffff; /* Main text color (white) */background-
color: #000000; /* Optional: background color */}
tw-link, .enchantment-link {color: #daf5d5; /* Link color (bright
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.visited {color: #999999; /* Visited link color */}
.visited:hover {color: #cccccc; /* Hover on visited link */}
```

tw-sidebar

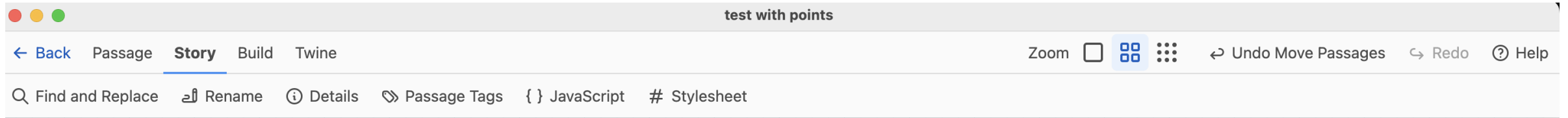
Refers to where the restart/undo control appears.

tw-story

tw-link

tw-link:hover

Setting colors



```
▼ Story Stylesheet
↶ Undo ↷ Redo ≡ Indent ≡ Unindent

tw-sidebar {display: none;}
tw-story {color: #ffffff; /* Main text color (white) */background-
color: #000000; /* Optional: background color */}
tw-link, .enchantment-link {color: #daf5d5; /* Link color (bright
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tw-link:hover, .enchantment-link:hover {color: #ff9900; /*
Hovercolor */}
.visited {color: #999999; /* Visited link color */}
.visited:hover {color: #cccccc; /* Hover on visited link */}
```

tw-sidebar

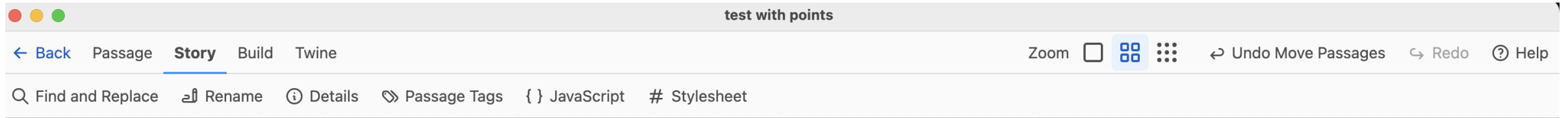
tw-story

Refers to how the entire passage appears on the screen, including font type, background and font colors.

tw-link

tw-link:hover

Setting colors



```
tw-sidebar {display: none;}
tw-story {color: #ffffff; /* Main text color (white) */background-
color: #000000; /* Optional: background color */}
tw-link, .enchantment-link {color: #daf5d5; /* Link color (bright
yellow) */}
tw-link:hover, .enchantment-link:hover {color: #ff9900; /*
Hovercolor */}
.visited {color: #999999; /* Visited link color */}
.visited:hover {color: #cccccc; /* Hover on visited link */}
```

tw-sidebar

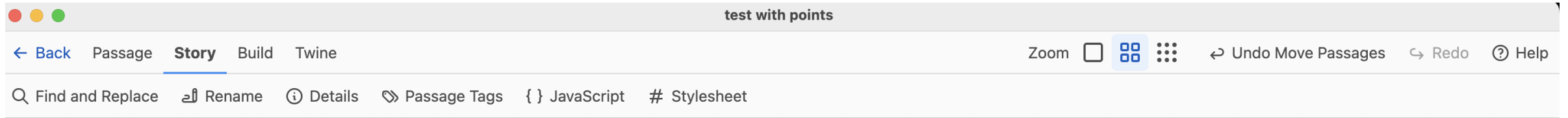
tw-story

tw-link

Defines the hyperlink appearance.

tw-link:hover

Setting colors



Story Stylesheet

Undo Redo Indent Unindent

```
tw-sidebar {display: none;}
tw-story {color: #ffffff; /* Main text color (white) */background-
color: #000000; /* Optional: background color */}
tw-link, .enchantment-link {color: #daf5d5; /* Link color (bright
yellow) */}
tw-link:hover, .enchantment-link:hover {color: #ff9900; /*
Hovercolor */}
.visited {color: #999999; /* Visited link color */}
.visited:hover {color: #cccccc; /* Hover on visited link */}
```

tw-sidebar

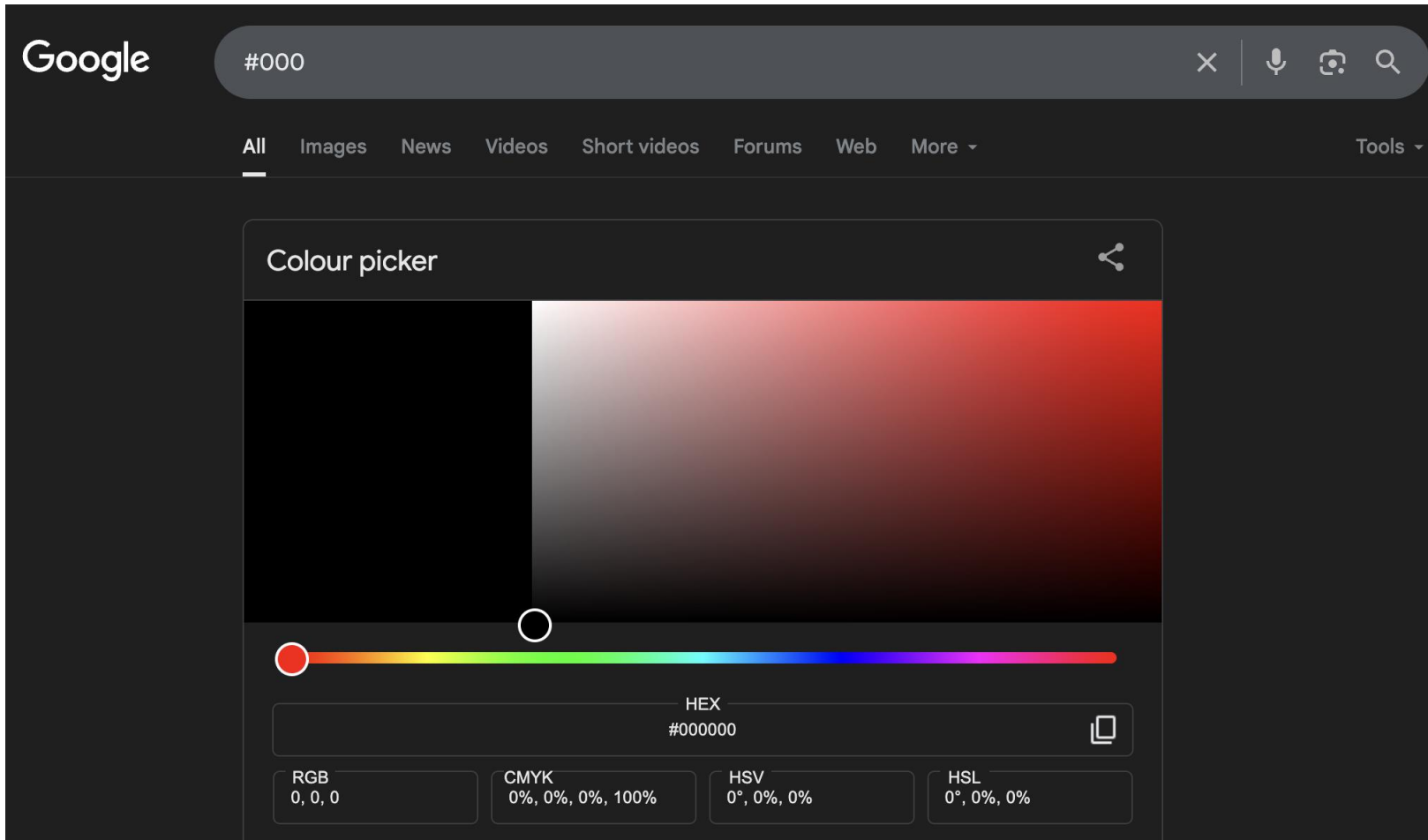
tw-story

tw-link

tw-link:hover

Refers to how a link will look like, once a use moves their cursor over them.

Color palettes



Copy the HEX code and paste on the stylesheet

Complementary readings

- Koelewijn G, Hennus MP, Kort HSM, Frenkel J, van Houwelingen T. Games to support teaching clinical reasoning in health professions education: a scoping review. *Med Educ Online*. 2024 Dec 31;29(1):2316971. doi: 10.1080/10872981.2024.2316971. Epub 2024 Feb 23. PMID: 38394053; PMCID: PMC10896137.
- Kononowicz AA, Woodham LA, Edelbring S, Stathakourou N, Davies D, Saxena N, Tudor Car L, Carlstedt-Duke J, Car J, Zary N. Virtual Patient Simulations in Health Professions Education: Systematic Review and Meta-Analysis by the Digital Health Education Collaboration. *J Med Internet Res*. 2019 Jul 2;21(7):e14676. doi: 10.2196/14676. PMID: 31267981; PMCID: PMC6632099.
- Krishnamurthy K, Selvaraj N, Gupta P, Cyriac B, Dhurairaj P, Abdullah A, Krishnapillai A, Lugova H, Haque M, Xie S, Ang ET. Benefits of gamification in medical education. *Clin Anat*. 2022 Sep;35(6):795-807. doi: 10.1002/ca.23916. Epub 2022 Jun 8. Erratum in: *Clin Anat*. 2024 Dec 18. doi: 10.1002/ca.24250. PMID: 35637557.
- Mohan D, Fischhoff B, Angus DC, Rosengart MR, Wallace DJ, Yealy DM, Farris C, Chang CH, Kerti S, Barnato AE. Serious games may improve physician heuristics in trauma triage. *Proc Natl Acad Sci U S A*. 2018 Sep 11;115(37):9204-9209. doi: 10.1073/pnas.1805450115. Epub 2018 Aug 27. PMID: 30150397; PMCID: PMC6140476.