

In-Class Question 6

Question)

Here is a program.

```
response = input("Do you want to eat a candy bar (Y/N)? ")

cost_of_candy_bar = 7
number_of_candy_bars = 0
total_cost = 0

SEE_QUESTION
    number_of_candy_bars = number_of_candy_bars + 1
    total_cost = total_cost + cost_of_candy_bar

    response = input("Do you want to eat one more (Y/N)? ")

print("You ate", number_of_candy_bars, "candy bars.")
print("They cost you", total_cost, "dollars.")
```

Here is the output showing the text input and output when the program is run. The text in bold and italic is the text entered by the user.

```
Do you want to eat a candy bar (Y/N)? Y
Do you want to eat one more (Y/N)? Y
Do you want to eat one more (Y/N)? Y
Do you want to eat one more (Y/N)? Y
Do you want to eat one more (Y/N)? N
You ate 4 candy bars.
They cost you 28 dollars.
```

The question is: **How many** of the following lines of code can be used to replace **SEE_QUESTION**? You just need to count how many of the lines of code shown below could be used to replace **SEE_QUESTION**.

For your answer, enter an integer number. Don't use a full stop or anything like that. Your answer will be a number in the range 0 to 10 inclusive.

- `while response == "Y":`
- `while response != "Y":`
- `while response == "N":`

- `while response != "N":`
- `while number_of_candy_bars != 4:`
- `while number_of_candy_bars == 4:`
- `while number_of_candy_bars < 4:`
- `while total_cost != 28:`
- `while total_cost < 35:`
- `while total_cost >= 28:`

Correct answer(s):

- 5

Explanation:

- This question focusses on producing the required output using one of the provided while conditions
- If you look at the given output, you know the loop should run its content 4 times to produce the output
- That means the while condition is evaluated 5 times, producing True, True, True, True and False when the loop is run
- Here are the values of each condition when the loop is run:

- `response == "Y"`

True, True, True, True and False

- `response != "Y"`

False, False, False, False and True

- `response == "N"`

False, False, False, False and True

- `response != "N"`

True, True, True, True and False

- `number_of_candy_bars != 4`

True, True, True, True and False

- `number_of_candy_bars == 4`

False, False, False, False and True

- `number_of_candy_bars < 4`

True, True, True, True and False

- `total_cost != 28`

True, True, True, True and False

- `total_cost < 35`

True, True, True, True and True

- `total_cost >= 28`

False, False, False, False and True

- As you can see, 5 of the conditions allow the loop to run its content four times