

Problem 1

```
population = 328441687
seconds = 0
until seconds is equal to 31536000
    seconds = seconds + 1
    For every 8 seconds, population = population + 1
    For every 12 seconds, population = population - 1
    For every 27 seconds, population = population + 1
output(population)
```

Problem 2

```
Set variable seconds
Set variable minutes
Set variable hours
Set variable days

Set variable f_seconds (final value for variable)
Set variable f_minutes (final value for variable)
Set variable f_hours (final value for variable)
Set variable f_days (final value for variable)

User input in seconds = seconds
seconds / 60 = minutes
seconds % 60 = f_seconds

minutes / 60 = hours
minutes % 60 = f_minutes

hours / 24 = f_days
hours % 24 = f_hours

output(The time is f_days days, f_hours hours, f_minutes
minutes, and f_seconds seconds)
```

Problem 3

User input = **celsius**

fahrenheit = $(9/5) * \text{celsius} + 32$

output(**fahrenheit**)

Problem 4

number = input ("Enter a number from 1 to 10")

while **number** isn't between 1 and 10, including 1 and 10

 Output("Enter a number from 1 to 10")

number = input ("Enter a number from 1 to 10")

If **number** is between 1 and 10, including 1 and 10

 output(**number**)

Problem 5

Option = input ("What is your next move?

a.Fight the villain

b.Save the citizen

c.Return to secret base")

Set variable **a**

Set variable **b**

Set variable **c**

a = Fight the villain

b = Save the citizen

c = Return to secret base

While

 If user inputs **a**

 output("You win!")

Option = input ("What is your next move?

a.Fight the villain

b.Save the citizen

c.Return to secret base")

 If user inputs **b**

 output("You saved the citizen")

Option = input ("What is your next move?

a.Fight the villain

b.Save the citizen

c.Return to secret base")

 If user inputs **c**

 output("Who will save the world?")

Problem 6.A

month = 0

amount = 10000

While amount is greater than 0

month = **month** + 1

interest = amount * 0.5%

amount = (amount + interest) - 500

years = **month** / 12.0

output(years)

Problem 6.B

Input ("Initial balance (amount), interest rate and monthly expenditure")

Set variable **i_amount**

Set variable **interest rate_%**

Set variable **monthly expenditure**

month = 0

amount = **i_amount**

While amount is greater than 0

month = **month** + 1

interest rate = amount * **interest rate_%**

amount = (amount + **interest rate**) - **monthly expenditure**

years = **month** / 12.0

If amount is increasing, terminate process

output(years)