```
#Program title: Population calculator
#Program author: Harold Vernon
def calculate_population(population, growth_rate):
        return population * (1+ growth_rate / 100)

def main()
print("--------------")
print("-Population-")
print("-------------\n")

        #Gather current populations and growth rates
        population_a = int(input("Enter the current population of Town A.")
        population_b = int(input("Enter the current population of Town B.")
        growth_rate_a = float(input("Enter the growth rate percent of Town A: "))
        growth_rate_b = float(input("Enter the growth rate percent of Town B: "))

        #Initialize year counter
        years = 0

        #Loop
        while population_a < population_b:
        #Calculate populations after a year
        population_a = calculate_population(population_a, growth_rate_a)
        population_b = calculate_population(population_b, growth_rate_b)
        years += 1
```

```
        #Print results
        print(f"After {years} years, the population  of Town A will match or surpass the population of Town B.")
        print(f"After {years} years, the population of Town A is {int(population_a)}.")
        print(f"After {years} years, the population of Town B is {int(population_b)}.")


if __name__ == "__main__":
        main()
```

```
#Program title: Digit Adder
#Program author: Harold Vernon
def sum_of_digits(number):
        #Initialize sum variable
        digit_sum = 0

        #Iterate until the number becomes 0
        while number > 0:
                #Extract last digit
                digit_sum += number % 10

                #Remove last digit
                number //= 10

        return digit_sum

def main():
```

```
        #Prompt input
        num = int(input("Please enter a positive integer."))

        #Compute sum
        total_sum = sum_of_digits(num)

        #Output sum
        print("The sum of the digits is:", total_sum)

if __name__ == "__main__":
        main()
```

```
#Program title: My Range
#Program author: Harold Vernon
def myRange(start, stop=None, step=None):
        #Determine start, stop, and step values
        if stop is None and step is None:
                start, stop = 0, start
        elif step is None:
                stop, start = start, stop
                step = 1

        #Initialize empty list
        result= []

        #Generate list
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    if step > 0:
        while start < stop:
            result.append(start)
            start += step
    elif step < 0:
        while start > stop:
            result.append(start)
            start += step
    else:
        raise ValueError("myRange() step argument must not be zero")

    return result
    #Test
    print(myRange(10))
```