

Note: Don't run/execute the code, **Use pen/paper first**

General form of for loop

```
for variable in sequence:  
    Block of Statements
```

General form of while loop

```
while condition is True:  
    Block Statements
```

Write output for the following (Attempt with PEN/PAPER first):

1.

```
price = 120  
discount = 0  
  
if price > 100:  
    discount = price * 0.1  
else:  
    discount = price * 0.05  
  
final_price = price - discount  
print(final_price)
```

2.

```
cells = 1  
time = 0  
  
while time < 3:  
    cells *= 2  
    time += 1  
  
print(cells)
```

3.

```
word = "ART"
new_word = ""

for letter in word:
    if letter == "A":
        new_word += "B"
    else:
        new_word += letter

print(new_word)
```

4.

```
temp = 75

if temp > 80:
    print("High temperature alert!")
elif temp < 60:
    print("Low temperature warning!")
else:
    print("Temperature is normal.")
```

5.

```
profit = 1000

for year in range(3):
    profit += 200

print(profit)
```

6.

```
substance = 100
time = 0

while substance > 25:
    substance /= 2
    time += 1

print(time)
```

7.

```
speed = 100

if speed > 80:
    speed -= 20
elif speed > 50:
    speed -= 10

print(speed)
```

8.

```
total = 0

for i in range(1, 6):
    total += i

print(total)
```

9.

```
distance = 0
speed = 10
time = 0

while time < 4:
    distance += speed
    time += 1

print(distance)
```

10.

```
price = 500

for _ in range(3):
    price -= 50

print(price)
```

11.

```
carbon = 200

while carbon > 100:
    carbon -= 20

print(carbon)
```

12.

```
sentence = "ECHO"
new_sentence = ""

for letter in sentence:
    if letter in "AEIOU":
        new_sentence += "*"
    else:
        new_sentence += letter

print(new_sentence)
```

13.

```
principal = 1000
rate = 100

for _ in range(3):
    principal += rate

print(principal)
```

14.

```
word = "HISTORY"
word = list(word)
temp = word[0]

for i in range(len(word) - 1):
    word[i] = word[i + 1]

word[-1] = temp
print("".join(word))
```