[변수]

```python
#p001.py
a = int(1)              # a = 1
b = str("python")       # b = "python"
c = float(1.5)          # c = 1.5
d = int(1)              # d = 1
e = c
f = float(1.5)          # f = 1.5
g = str("python")       # g = "python"
d = int(2)              # d=1

print("a=", id(a))
print("b=", id(b))
print("c=", id(c))
print("d=", id(d))
print("e=", id(e))
print("f=", id(f))
print("g=", id(g))
```

[input() 함수]

```
1   # p002.py
2   print("#1")
3   input()
4
5   print("#2")
6   print(input()) #3 입력
7
8   print("#3")
9   a = input()
10  print(a)
11
12  print("#4")
13  q = input("이름:")
14  print(q)
```

[print() 함수]

```python
# p003.py
print(int(1))
print(str("1"))
print(float(1.1))
print(bool(True))

print("=" * 30)

print("I" "AM" "A" "BOY.")
print("I", "AM", "A", "BOY.")
print("I" + "AM" + "A" + "BOY.")

print("=" * 30)

print("I")
print("AM")
print("A")
print("BOY.")

print("I", end="")
print("AM", end="")
print("A", end="")
print("BOY.", end="")

print("=" * 30)
print("I", "AM", "A", "BOY.", sep=";")
```

[기본 자료형]

```python
# p004.py
decimal = int(13)
binary = int(0b1101)
octal = int(0o15)
hexadecimal = int(0xD)
print(decimal, binary, octal, hexadecimal)

real = float(13.1)
print(real)

decimal = int(1_000_000_000)
print(decimal)
```

[다양한 값 생성 방식]

***모두 작성한 후 에러가 발생하는 문장은 주석 처리를 하면서 소스를 이해한다.**

```python
# p005.py
data_1 = int("1.1")
data_2 = int("일")
data_3 = float("일점일")


data_1 = float(1)       # 정수 -> 실수
data_2 = float(1.1)     # 실수
data_3 = float("1.1")   # 문자열 -> 정수
data_4 = 1.1            # 실수형 값 , 별칭

print(data_1)
print(data_2)
print(data_3)
print(data_4)

data_1 = int(1)      # 정수
data_2 = int(1.1)    # 실수 -> 정수
data_3 = int("1")    # 문자열 -> 정수
data_4 = 1           # 정수형 값 , 별칭

print(data_1)
print(data_2)
print(data_3)
print(data_4)
```

[객체 & 정수의 내부 구성]

*다양한 정수형을 넣어서 테스트하기

```python
# p006.py
a = int(-2)
print(a.real)
print(a.bit_length())

b = int(128)
print(b.real)
print(b.bit_length())
```

[산술연산자]

```python
# p007.py
a = int(5)
b = int(2)
c = float(2.4)

add = a + b + c
sub = a - b - c
print(add, sub)  # 9.4 0.6000000000000001

mul1 = a * b
mul2 = a * c
print(mul1, mul2)  # 10 12.0

div1 = a / b    # 5/2
div2 = a // b   # 5//2
div3 = a % b    # 5 % 2
div4 = c / b    # 2.4 / 2
div5 = c // b   # 2.4 // 2
div6 = c % b    # 2.4 % 2
print(div1, div2, div3)  # 2.5 2 1
print(div4, div5, div6)  # 1.2 1.0 0.3999999999999999

sqr1 = a ** b   # 5 ** 2
sqr2 = b ** c   # 2 ** 2.4
print(sqr1, sqr2)  # 25 5.278031643091577
```

[input() 함수 심화]

```python
# p008.py
opr1 = input("피연산자1:")
opr2 = input("피연산자2:")
result = opr1 + opr2
print(opr1, "+", opr2, "=", result)

opr1 = int(input("피연산자1:"))
opr2 = int(input("피연산자2:"))
result = opr1 + opr2
print(opr1, "+", opr2, "=", result)

opr1 = float(input("피연산자1:"))
opr2 = float(input("피연산자2:"))
result = opr1 + opr2
print(opr1, "+", opr2, "=", result)
```

[커피 가게 매출 계산기]

```python
# p009.py
americano_price = int(2000)
cafelatte_price = int(3000)
capucino_price = int(3500)

americano_no = int(input("아메리카노 판매 개수:"))
cafelatte_no = int(input("카페라떼 판매 개수:"))
capucino_no = int(input("카푸치노 판매 개수:"))

sales = americano_no * americano_price
sales = sales + cafelatte_no * cafelatte_price
sales = sales + capucino_no * capucino_price

print("총 매출:", sales, "원")
```

[화씨 → 섭씨]

```python
# p010.py
f = float(input("화씨:"))
c = (f-32) * 5 / 9
print("섭씨:", c)
```

[BMI 계산]

```python
# p011
weight = float(input("너의 무게는(kg)?"))
height = float(input("너의 키는(m)?"))
bmi = weight / (height**2)
print("너의 BMI는", bmi)
```

[문자열 1]

```python
# p012.py
a = str("Hello World")
b = "Hello World"
c = 'Hello World'
d = """Hello World"""
e = '''Hello World'''
print(a)  # Hello World
print(b)  # Hello World
print(c)  # Hello World
print(d)  # Hello World
print(e)  # Hello World

f = "Hello World'
```

[문자열 2]

```python
# p013.py
msg1 = 'I don't like Python.'
msg1 = "I don't like Python."

msg2 = "I like "Python"."
msg2 = 'I like "Python".'

msg3 = "I don't like "Python"."
msg3 = "I don't like \"Python\"."
msg3 = 'I don\'t like "Python".'

string = "안녕\n나는 \"김인하\"라고 해.\t c:\\test\\test.py"
print(string)
```

[문자열 3]

```python
# p014.py
firstname = str("미영")
familyname = str("김")
fullname = familyname + firstname
print(fullname)

# fullname = str("김") + str("미영")
fullname = "김" + "미영"
print(fullname)

a = 1 + 1        # a = int(1) + int(1)
b = "1" + "1"    # b = str("1") + str("1")
c = 1 + "1"      # c = int(1) + str("1")
print(a, b, c)

d = str(1) + "1"      # c = str(1) + str("1")
e = 1 + int("1")      # c = int(1) + int("1")
print(d, e)
```

[문자열 4]

```python
a = "싫어꺼져싫어꺼져싫어꺼져싫어꺼져"
b = "싫어꺼져" * 4
print(a)         #싫어꺼져싫어꺼져싫어꺼져싫어꺼져
print(b)         #싫어꺼져싫어꺼져싫어꺼져싫어꺼져

print("=" * 40); print("안내 말씀"); print("=" * 40)
#========================================
#안내 말씀
#========================================

'''
안내 말씀
'''
```

[문자열 5]

```python
# p016.py
a = "I like Python"
print(a)
print(len(a))

b = len(a)
b = b * 2
print(b)

c = len("I like Python!")
print(c)

d = len("")
print(d)
```

[문자열 6]

```python
# p017.py
print("#" * 30)
a = "I like Python"
print(a[0], a[12])
print(a[len(a) - 1])
print(a[-1])
print(a[13])
print(a[-14])

print("#" * 30)
soc_number = input("주민등록번호:")
gender = soc_number[7]
print("성별코드:", gender)

print("#" * 30)
stu_number = input("학번:")
data1 = stu_number[0]
data2 = stu_number[1]
print("분류:", data1)
print("연도:", data2)
```

[문자열 7]

```python
# p018.py
a = "abcde"

b = a[1:]
c = a[-3:]
print(a, b, c)

b = a[:2]
c = a[:-1]
print(a, b, c)

b = a[2:4]
c = a[-4:-2]
print(a, b, c)

b = a[2:4]
c = a[-4:-2]
print(a, b, c)

b = a[0:5:2]
c = a[3:0:-1]
print(a, b, c)

b = a[::2]
c = a[-5::3]
d = a[::-1]  # 전체를 거꾸로
e = a[3::-1]
print(a, b, c, d, e)
```

[문자열 8]

```
# p019.py
stu_number = input("학번:")

data1 = stu_number[1]
data2 = stu_number[2:4]

if data1 == "1":
    data3 = "19" + data2
elif data1 == "2":
    data3 = "20" + data2
else:
    data3 = "알 수 없음"

print("입학연도:", data3)
```

[문자열 17]

```
test_data = "Indexing & Slicing"
print("원본:", test_data)

indexing_data = test_data[3]
slicing_data = test_data[3:7]

print("원본:", test_data, type(test_data))
print("사본1:", indexing_data, type(indexing_data))
print("사본2:", slicing_data, type(slicing_data))
```

[bool]

```python
# p029.py
a = bool(True)
b = bool(False)
c = True
d = False
print(a, b)
print(c, d)

a = bool(10)
b = bool(0)
c = bool(-10)
d = bool("")
e = bool("hi")
f = bool(0.0)
g = bool(10.5)
print(a,b,c,d,e,f,g)

print(1 == 1)
print(1 != 1)
print(2 > 1)
print(2 >= 1)
print(2 < 1)
print(2 <= 1)

print(type(1), type(1.1), type("1"), type(True))
```