

第三章作业

结果和代码

一、 给出下列数据的类型 (int/float/bool/NoneType)

```
# 1) 3.14 float
# 2) -34 int
# 3) True bol
# 4) None NoneType
# 5) 3.0 float
```

```
print("第一题")
```

```
lst = [3.14, -34, True, None, 3.0]
for i in lst:
    a = type(i)
    print(f'{i} is {a}')
```

二、 计算下列算术表达式的值

```
# 1) 6+12-3 15
# 2) 2*3.0 6.0
# 3) --4 4
# 4) 10/3 3.333333333333335
# 5) 10//3 3
# 6) 10.0/3.0 3.333333333333335
# 7) (2+3)*4 20
# 8) 2+3*4 14
# 9) 2**3+1 9
# 10) 2.1**2.0 4.41
```

```
print("第二题")
```

```
lst = ['6+12-3', '2*3.0', '--4', '10/3', '10//3', '10.0/3.0', '(2+3)*4', '2+3*4', '2**3+1', '2.1**2.0']
for i in lst:
    a = eval(i)
    print(f'{i} is {a}')
```

三、 计算下列关系表达式、逻辑表达式的值

```
# 1) 3>4 False
# 2) 4.0>3.999 True
# 3) 4>4 False
# 4) 4>+4 False
# 5) 2+2==4 True
# 6) True or False True
# 7) False or False False
# 8) not False True
# 9) 3.0-1.0!=5.0-3.0 False
# 10) 3>4 or (2<3 and 9>10) False
```

```
# 11) 4>5 or 3<4 and 9>8 True
# 12) not(4>3 and 100>6) False
```

```
print("第三题")
```

```
lst = ['3>4', '4.0>3.999', '4>4', '4>+4', '2+2==4', 'True or False', 'False or False', 'not False', '3.0-'
for i in lst:
    a = eval(i)
    print(f'{i} is {a}')
```

四、给出下列表达式的类型（int/float/bool/error），并计算其值

```
# 1) 3+5.0 float 8.0
# 2) 5/2 float 2.5
# 3) 5/2==5/2.0 bool True
# 4) 5/2.0 float 2.5
# 5) round(2.6) int 3
# 6) int(2.6) int 2
# 7) round(2.5) int 2
# 8) 2.0+5.0 float 7.0
# 9) 5*2==5.0*2.0 bool True
```

```
print("第四题")
```

```
lst = ['3+5.0', '5/2', '5/2==5/2.0', '5/2.0', 'round(2.6)', 'int(2.6)', 'round(2.5)', '2.0+5.0', '5*2==5.
for i in lst:
    a = eval(i)
    print(f'{i} is {a} and type is {type(a)}')
```

五、计算下列表达式的值，结果用十六进制表示（写出中间步骤）

```
# 1) 3+2<<1+1 5<<2 5=0b101 左移两位 0b10100 20=0x14
# 2) 2*9|3>>1 18|3>>1 3=0b11 3右移一位 0b1 18=0b10010 0b10010|0b1=0b10011 19=0x13
# 3) ~5&3 5=0b101 ~5=-0b110 -0b110&0b11=0b10 2=0x2
# 4) 5|3+4&5*3 5|7&15 5=0b101 7=0b111 15=0b1111 0b111&0b1111=0b111 0b101|0b111=0b111 7=0x7
```

```
print("第五题")
```

```
lst = ['3+2<<1+1', '2*9|3>>1', '~5&3', '5|3+4&5*3']
for i in lst:
    a = eval(i)
    print(f'{i} is {a} and hex is {hex(a)})
```

程序运行结果

```
D:\APP_cs\YD_learn\github\youth4science>python ./Python/HOMEWORK/work3.py
```

第一题

```
3.14 is <class 'float'>
-34 is <class 'int'>
True is <class 'bool'>
None is <class 'NoneType'>
3.0 is <class 'float'>
```

第二题

```
6+12-3 is 15
2*3.0 is 6.0
--4 is 4
10/3 is 3.333333333333335
10//3 is 3
10.0/3.0 is 3.333333333333335
(2+3)*4 is 20
2+3*4 is 14
2**3+1 is 9
2.1**2.0 is 4.41
```

第三题

```
3>4 is False
4.0>3.999 is True
4>4 is False
4>+4 is False
2+2==4 is True
True or False is True
False or False is False
not False is True
3.0-1.0!=5.0-3.0 is False
3>4 or (2<3 and 9>10) is False
4>5 or 3<4 and 9>8 is True
not(4>3 and 100>6) is False
```

第四题

```
3+5.0 is 8.0 and type is <class 'float'>
5/2 is 2.5 and type is <class 'float'>
5/2==5/2.0 is True and type is <class 'bool'>
5/2.0 is 2.5 and type is <class 'float'>
round(2.6) is 3 and type is <class 'int'>
int(2.6) is 2 and type is <class 'int'>
round(2.5) is 2 and type is <class 'int'>
2.0+5.0 is 7.0 and type is <class 'float'>
5*2==5.0*2.0 is True and type is <class 'bool'>
```

第五题

```
3+2<<1+1 is 20 and hex is 0x14
2*9|3>>1 is 19 and hex is 0x13
~5&3 is 2 and hex is 0x2
5|3+4&5*3 is 7 and hex is 0x7
```