

COMP 141 — Midterm 1 Practice Problems

Solutions

Answers

1. a. `input`
2. b. `end`
3. b. `float`
4. c. `str`
5. a. 68
6. b. `global`
8. d. `local`
9. c. `parameters`
10. d. `arguments`
11. `True`

Because `x < y` is `False` but `z > x` is `True`.

12. `False`

The expression inside `not` is `True`, so `not True` is `False`.

- 13.

89

- 14.

17.9

- 15.

The number I'm printing is 76.16

- 16.

5

- 17.

81

18. `algorithm`

19. `if-else`

20. `while`

21. `comments`

- 22.

Initially:

`x = 2`

Then:

`x *= x + 3`

means:

`x = x * (x + 3)`

so:

`x = 2 * 5`

Therefore:

10

23.

The loop adds:

$$2 + 3 + 4 + 5 + 6 + 7 + 8 = 35.$$

Output:

35

24.

25 is divisible by 5.

The loop stops after testing 5, but `i` is incremented once more before the loop condition is checked again.

Output:

`i is 6 isPrime is False`

25.

Adult

26.

2 5

5

8

5 3

9

27.

When `x = 2`:

`change(2)`

returns 4.

When `x = 4`, it returns 8.

When `x = 6`, it returns 12.

Output:

```
2 4
4 8
6 12
```

Code-Writing Solutions

28.

One possible solution:

```
import random

number = random.randint(0, 100)

if number > 50:
    print("Too high")
else:
    print("Too low")
```

29.

```
def calculate_total_bill(bill_amt, perc_tip):
    return bill_amt + bill_amt * perc_tip
```

Equivalent:

```
def calculate_total_bill(bill_amt, perc_tip):
    return bill_amt * (1 + perc_tip)
```

30.

One possible solution:

```
def compareNumbers(num1, num2):
    if num1 < num2:
        print(num1, num2)
    else:
        print(num2, num1)
```

An equality case is also acceptable because the two printed values are the same either way.

31.

One possible solution using a `while` loop:

```
total = 0
i = 1

while i <= n:
    total += i * i
    i += 1
```

A correct `for` loop solution is also acceptable:

```
total = 0

for i in range(1, n + 1):
    total += i * i
```

32.

One possible solution:

```
number = int(input("Enter a number: "))
```

```
while number >= 0:
    if number % 2 == 0:
        print("Even")
    else:
        print("Odd")

    number = int(input("Enter a number: "))
```