1. Which sentence is <u>not true</u>?
   1) The computer memory only keeps the data to be processed with the CPU.
   2) People rarely write a program in machine language instructions.
   3) People usually develop software with higher-level programming languages which need to be translated into a form that the computer can understand.
   4) The smallest unit of information that can be processed by digital computers is a single binary digit (a bit).
   5) Choices 1) and 4).

2. What is the output of the following code fragment?

```
1: i = 1
2: print(i,n)
3: n = input("Please enter a number: ")
```

   1) Syntax error at line 1.
   2) `NameError: name 'n' is not defined.`
   3) Error at line 3 as the variable **n** should be a number.
   4) Error at line 3 as function `int()` is missing.
   5) Both choices 3) and 4) are correct.

3. Which choice is the output of the following code fragment:

```
 1: x = 20
 2: i = 0
 3: if x%2 >= 10:
 4:     i = i + x
 5:     if i > 10:
 6:         i = i // 2
 7:     else:
 8:         i = i % 2
 9: else:
10:     i = i - x
11:     if i%5 < 5:
12:         i = i // 3
13: print(i)
```

   1) `-20`
   2) `-7`
   3) `0`
   4) `10`
   5) `20`

4. What is the correct Python expression to represent the following mathematical expression?

$$\frac{-6x^3 - 8}{5}$$

   1) `(-6x**3-8)/5`
   2) `-6*x**3-8/5`
   3) `(-6*x**3-8)*1/5`
   4) `-(6*x**3-8)/5`
   5) None of the above choices is correct.

5. The following code fragment computes a daily wage (ค่าจ้าง) according to the number of work hours and an hour rate of hourly employees. If an employee works more than 8 hours, he will receive pay at the overtime rate (10% more) for the extra hours.

   <u>Example</u>

```
Enter hours: 10
Enter hour rate: 100
Wage = 1020.00
```

   What should be filled in the blank **(A)** to make the code fragment gives a correct output?

```
def compute_wage(hour,rate):
    ____(A)____

h = int(input("Enter hours: "))
r = int(input("Enter hour rate: "))
wage = compute_wage(h,r)
print(f"Wage = {wage:.2f}")
```

   1)
```
if hour <= 8:
    return hour*rate
else:
    return (hour-8)*rate*1.1+hour*rate
```

   2)
```
if hour <= 8:
    return hour*rate
else:
    return (hour-8)*rate*1.1+(hour*rate)
```

   3)
```
if hour <= 8:
    return hour*rate
else:
    return (hour-8)*rate*1.1+8*rate
```

   4)
```
if hour <= 8:
    return hour*rate
else:
    return (hour-8)*rate*0.10+(hour*rate)
```

   5)
```
if hour <= 8:
    return hour*rate
else:
    return 8*rate*1.1+hour-8*rate
```

6. Which choice is the correct way to call function `add10()` in the blank **(A)** such that the code fragment can display the correct output?

Example

```
Enter number1: 10
Enter number2: 20
20 30
```

```
def add10(num1,num2):
    return num1+10,num2+10

n1 = int(input("Enter number1: "))
n2 = int(input("Enter number2: "))
    (A)
print(num1,num2)
```

1) `add10(num1,num2)`
2) `add10(n1,n2)`
3) `num1,num2 = add10(n1,n2)`
4) `num2,num1 = add10(num2=n1,num1=n2)`
5) Choices 3) and 4).

7. Which choice is the correct output of the following code fragment?

```
1: def Fx(num1):
2:     num1 = 100
3:     return num1+num2
4:
5: num1 = 10
6: num2 = 20
7: num2 = Fx(num1)
8: print(num1,num2)
```

1) `10 20`
2) `100 20`
3) `10 120`
4) `100 120`
5) `120 100`
6) Choices 3) and 4).

8. Which choice is the correct output of the following code fragment, if a user enters **10**?

```
1: n = int(input())
2: if n//2 > 100:
3:     print("A")
4: elif n%2 >= 4:
5:     print("B")
6: elif n**2 >= 100:
7:     print("C")
8: else:
9:     print("D")
```

1) A
2) B
3) C
4) D
5) None of the above choices is correct.

9. If we want to find a minimum number of the three integers, what should be filled in the blank **(A)** to make the code fragment give a correct output?

```
def min_of_three(a,b,c):
    min = a
      (A)
    return min
```

1)
```
if b < min:
    min = b
elif c < min:
    min = c
```

2)
```
if b < c:
    min = b
elif c < min:
    min = c
```

3)
```
if b < a:
    min = b
if c < b:
    min = c
```

4)
```
if b < min:
    min = b
if c < min:
    min = c
```

5) Choices 3) and 4).

10. What is the output of the following code fragment?

```
print(2*2**2*2+2-2%2//2**2)
```

1) `34`
2) `34.0`
3) `258`
4) `258.0`
5) `0.0`

11. What is the output of the following code fragment?

```
1: if 2%3 == 1 and 7/3 > 0:
2:     print('1st condition')
3: elif 2**3 == 3**2:
4:     print('2nd condition')
5: if False:
6:     print('3rd condition')
7: else:
8:     print('No one.')
```

1) `1st condition`
2) `2nd condition`
3) `3rd condition`
4) `No one.`
5) The code fragment has a syntax error.

Use the following code fragment and the expected example output to answer the next 2 questions.

```
1:  x,y,z = 11,5,1
2:
3:      (A)
4:      print(f'x = {x}')
5:  if y <= 100 and y < 0:
6:      print(f'y = {y}')
7:  else:
8:      if z < 0:
9:          print('Nothing')
10:     elif y == 5 and x < 0:
11:         print(f'z = {z}')
12:     else:
13:         print(f'z = {x-y*2}')
```

Example output:

```
x = 11
z = 1
```

12. What should be put in the blank **(A)**?

   1) `if x > 10 and x <= 11:`
   2) `if x == 11 and y > 10:`
   3) `if y == 5 or x == 11:`
   4) `if x == 11:`
   5) Choices 1), 3), and 4) are correct.

13. What is the output when line 1 in the code has been changed to **x,y,z = 10,-5,1** ?

   1) `y = -5`
   2) `x = 10`
      `z = 1`
   3) `x = 10`
      `y = -5`
   4) `z = 1`
   5) None of the above choices is correct.

14. Which choice will cause an error?

   1) `int(input('123455'))`
   2) `K = abs(-9*4**2)`
   3) `Y = print('x for x in k')`
   4) `1+2*3-4/5+6*7*8/9-0`
   5) `float('12.5f')`

15. Given the following code fragment:

```
1:  price = 1000
2:  vat = 7
3:  Total = include_vat(price,vat)
4:  print(Total)
```

Which definition of the function **include_vat()** is NOT correct for computing total price of product that includes 7% of VAT?

   1)
```
def include_vat(price,vat_percent):
    return price+price*(vat_percent/100)
```
   2)
```
def include_vat(price,vat_percent):
    return price*(1+(vat_percent/100))
```
   3)
```
def include_vat(price,vat_percent):
    total = price*(vat_percent/100)
    return total
```
   4)
```
def include_vat(price,vat_percent):
    vat = vat_percent/100
    total = price*(1+vat)
    return total
```
   5) All of the above choices are correct.

16. Which code fragment causes an error?

   A:
```
y = 10
def f(x):
    return x+y
print(f(20))
```
   B:
```
def f(x):
    return x+y
print(f(20))
y = 10
```
   C:
```
def f(x):
    return x+y
y = 10
print(f(20))
```

   1) Only **A**
   2) Only **B**
   3) Only **C**
   4) Only **B** and **C**
   5) None of the above

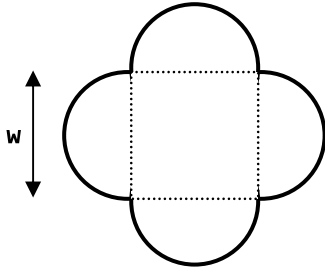17. Given the following functions:

```
1:  def f(x):
2:      return x+2
3:
4:  def g(x):
5:      return 2*x
```

What is the value of **g(g(f(f(x+1))))** ?

   1) 2x+4
   2) 2x+6
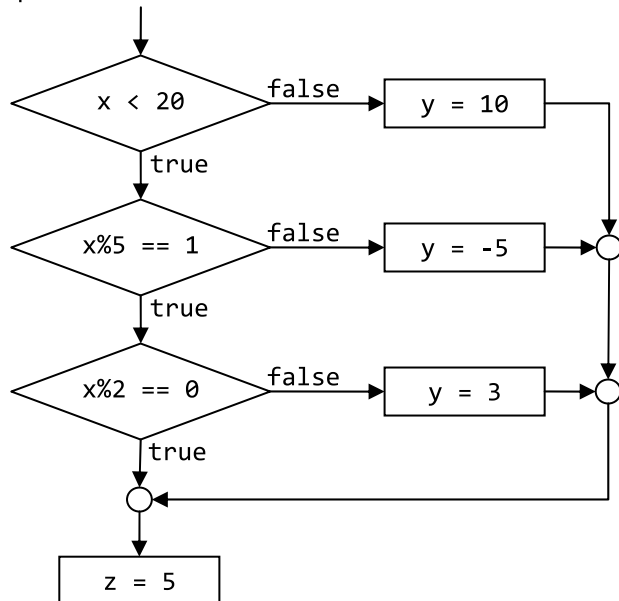   3) 4x+8
   4) 4x+16
   5) 4x+20

18. What is the expression to fill in the blank **(A)** to correctly compute the area of the shape below?

```
1:   from math import pi
2:   def area(w):
3:       return ____(A)____
```


1) w(w+pi*w/2)
2) w*w+2*pi*(w/2)
3) w*w+pi*w*w
4) w*w+2*pi*(w/2)**2
5) w*(w+pi)

Use the following flowchart to answer the next 2 questions.

19. Which value of **x** guarantees that **y** will be assigned to **3**?

1) **11**
2) **16**
3) **19**
4) **22**
5) **25**

20. Which code fragment corresponds to the flowchart?

1)
```
if x < 20:
    if x%5 == 1:
        if x%2 == 0:
            y = 5
        else:
            y = 3
    else:
        y = -5
else:
    y = 10
```

2)
```
if not x < 20:
    y = 10
elif not x%5 == 1:
    y = -5
elif not x%2 == 0:
    y = 3
z = 5
```

3)
```
if not x < 20:
    y = 10
elif not x%5 == 1:
    y = -5
elif not x%2 == 0:
    y = 3
else:
    z = 5
```

4)
```
if x < 20:
    y = 10
elif x%5 == 1:
    y = -5
elif x%2 == 0:
    y = 3
z = 5
```

5)
```
if x < 20:
    y = 10
elif x%5 == 1:
    y = -5
elif x%2 == 0:
    y = 3
else:
    z = 5
```

21. What part of a Python program, when removed, may change the program's behavior?

1) An empty line
2) A line starting with the character **#**
3) Spaces on the left side of a statement
4) Spaces on the right side of a statement
5) All of the above

22. Which definition of the `maximum()` function correctly returns the maximum of the given two numbers?

A:
```
def maximum(a,b):
    if a > b:
        return a
    if a <= b:
        return b
```

B:
```
def maximum(a,b):
    if a > b:
        return a
    else:
        return b
```

C:
```
def maximum(a,b):
    if a > b:
        return a
    if a < b:
        return b
```

1) Only **A**
2) Only **B**
3) Only **C**
4) Only **A** and **B**
5) All of **A**, **B** and **C**

23. What is the value of the variable **x** after the code fragment is executed?

```
1:  def compute(a,b,c):
2:      return 2*a + 3*b + c
3:  x = compute(c=3,a=0,b=1)
```

1) 5
2) 6
3) 7
4) 8
5) 9

24. Let **x** and **y** be integers. Which is a Boolean expression?

A: `x+y = 5`

B: `x > 5 and y < 7 not 3`

C: `not x < 5 and not y+2 != x`

1) Only **A**
2) Only **B**
3) Only **C**
4) Only **A** and **C**
5) All of **A**, **B** and **C**

Use the following code fragment to answer the next 2 questions.

```
1:  def f(x,y):
2:      x = 100
3:      y = 100
4:      return x+y,x-y
5:  x = 100
6:  y = 200
7:  x,y = f(y,x)
8:  print(x,y)
```

25. What is the output of the above code fragment?
1) `300 -100`
2) `200 0`
3) `200 100`
4) `0 300`
5) None of the above choices is correct.

26. If line 7 is changed to:

```
7:  x,y = f(y=x,x=y)
```

What is the output of the above code fragment?
1) `300 -100`
2) `200 0`
3) `200 100`
4) `0 300`
5) None of the above choices is correct.

27. What is an algorithm?
1) The input of the problem
2) The output of the problem
3) The step-by-step instructions to solve the problem
4) The problem statement
5) The name of the Python inventor

28. Debugging is the process of:
1) Identifying inputs of a problem
2) Identifying output of a problem
3) Removing errors, testing and revising a program to get expected output
4) Writing a good code
5) None of the above choices is correct.

29. Which values of `absentee_rate`, `midterm`, `final`, and `overall_mark` must be assigned to the following code fragment to show the message `"You pass the course."` on the screen?

```
1:  cond1 = absentee_rate <= 5
2:  cond2 = midterm >= 30
3:  cond3 = final >= 35
4:  cond4 = overall_mark >= 50
5:  if cond1 and cond2 and cond3 or cond4:
6:      print("You pass the course.")
```

1)
```
absentee_rate = 6
midterm = 35
final = 40
overall_mark = 45
```

2)
```
absentee_rate = 2
midterm = 25
final = 40
overall_mark = 45
```

3)
```
absentee_rate = 2
midterm = 35
final = 30
overall_mark = 45
```

4)
```
absentee_rate = 2
midterm = 35
final = 30
overall_mark = 55
```

5) None of the above choices is correct.

30. Which of the following is an invalid Python statement?
    1) `y = input("Please enter!")`
    2) `type(10.5)`
    3) `x = 5`
    4) `print(""Hello"")`
    5) None of the above choices is valid.

31. What is the Python expression for calculating the following mathematical expression?

$$\frac{n \times (k + 1)^2}{2}$$

1) `n*(k+1)/2*(k+1)/2`
2) `n/2*(k+1)**2`
3) `n*(k+1**2)/2`
4) `(nk**2+2*nk+n)/2`
5) `n/2*math.power(2,k+1)`

32. What is a statement to be filled in the blank **(A)** to produce the example output?

```
j = 32.5
print("0987654321")
    (A)
print("0987654321")
```

Example output:

```
0987654321
  32.5
0987654321
```

1) `print(f"{j:<6}")`
2) `print(f"{j:>6}")`
3) `print(f"(32.5:>6)")`
4) `print(f"{32:4}.5")`
5) Both 2) and 4) are correct.

33. What is the output of the following code fragment?

```
1:  def add(m,n):
2:      m = m+1
3:      n = n+2
4:      return n,m
5:  m,n = add(n=4,m=7)
6:  print(m,n)
```

1) `4 7`
2) `6 8`
3) `7 4`
4) `8 6`
5) `9 5`

34. Let **x** and **y** be any integer. Which of the following Boolean expression is NOT logically equivalent to all the rest?
    1) `(x>2) and (y<3)`
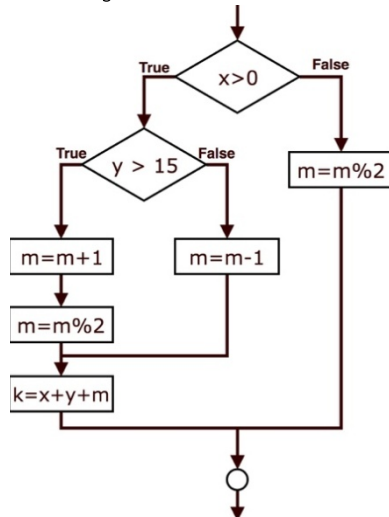   2) `(y<3) and not x<=2`
    3) `not not (x>2) or not (y<3)`
    4) `not (x<=2 or y>=3)`
    5) `False or (not (y>=3) and (x>2))`

35. What is the output of the following code fragment?

```
1:  def A(n):
2:      return n%7 == 0
3:  x = 7
4:  is_odd = (x%2 == 1)
5:  def T(speed):
6:      return not (speed > 80)
7:  print(f"{T(80)} {A(80)} {A(x+12)}")
```

1) `True False False`
2) `True False True`
3) `True True True`
4) `True True False`
5) `False False False`

36. From the following flowchart:

Which choice is equivalent to the above flowchart?

1)
```
if (x > 0):
    if (y > 15):
        m = m+1
        m = m%2
    else:
        m = m-1
    k = x+y+m
else:
    m = m%2
```

2)
```
if (x <= 0):
    m = m%2
else:
    if (y < 15):
        m = m-1
    else:
        m = m+1
        m = m%2
k = x+y+m
```

3)
```
if (x > 0) and (y > 15):
    m = m+1
    m = m%2
    k = x+y+m
elif (x >= 0) and (y <= 15):
    m = m-1
    k = x+y+m
else:
    m = m%2
```

4)
```
if (x <= 0):
    m = m%2
elif (x > 0) and (y <= 15):
    m = m-1
elif (x > 0) and (y > 15):
    m = m+1
    m = m%2
    k = x+y+m
```

5) There is more than one correct answer.

37. What is the output of the following code fragment?

```
1:  x = 10
2:  y = x+1
3:  if (10 < x) or (x <= 10):
4:      print("ant")
5:  elif (x < 0) or not(True):
6:      print("bat")
7:  elif (x < y):
8:      print("cat")
9:  else:
10:     print("dog")
```

1) ant
2) bat
3) cat
4) dog
5) Nothing is displayed.

38. What is the output of the following code fragment?

```
1:  def f(x):
2:      if (x >= 1):
3:          return "Hello"
4:      elif (x == 2):
5:          return "2"
6:      else:
7:          return 1
8:  print(f(1)+f(2)*f(0))
```

1) Hello
2) Hello2
3) 2Hello
4) HelloHello
5) HelloHelloHello

39. Which inputs display "**two**" on screen?

```
1:   x = int(input())
2:   y = int(input())
3:   if x > y:
4:       print("one")
5:   else:
6:       if y > 10:
7:           print("two")
8:       elif x < 15:
9:           print("three")
10:      else:
11:          print("four")
```

1) 12
   20
2) 8
   8
3) 22
   21
4) 30
   9
5) None of the above choices is correct.

40. Which function produces different results from the others if input **n** is any integer?

1)
```
def cal(n):
    if n > 5:
        return 'C'
    if n < 3:
        return 'A'
    return 'B'
```

2)
```
def cal(n):
    if n < 3:
        return 'A'
    elif n < 6:
        return 'B'
    return 'C'
```

3)
```
def cal(n):
    if n <= 2:
        return 'A'
    if n <= 5:
        return 'B'
    else:
        return 'C'
```

4)
```
def cal(n):
    if n >= 6:
        return 'C'
    if n <= 2:
        return 'A'
    else:
        return 'B'
```

5) All of above functions produce the same result.

41. Which code fragment can calculate the 12% discounted price of 150 baht and display discounted price to the screen?

1)
```
def cal_price(full_price,discount):
    return discount full_price
print(cal_price(150,12))
```

2)
```
def cal_price(full_price,discount):
    price = full_price/100*100-discount
print(cal_price(150,12))
```

3)
```
def cal_price(discount,full_price):
    print(full_price*
            (100-discount)/100)
cal_price(150,12)
```

4)
```
def cal_price(full_price,discount):
    price = full_price*100-discount/100
cal_price(150,12)
```

5)
```
def cal_price(full_price,discount):
    return ((100-discount)
            *full_price/100)
print(cal_price(150,12))
```

42. Which choice assigns the value of variable **f** in the term of **c** from the mathematic equation below?

$$\frac{c}{5} = \frac{f-32}{9}$$

1) `f = (32+c)/5/9`
2) `f-32 = c/5/9`
3) `(f-32)/9 = c/5`
4) `f = 32+c/5*9`
5) None of the above.

43. Assume **x = 5** and **y = 2**, what is the result of this statement that displays on the screen?

```
print(x+y*x%y, x*y+x**y, x*x+y//x)
```

1) `5 (x*y+x**y) 25`
2) `5 35 25`
3) `1 (x*y+x**y) 5`
4) `1 225 5`
5) None of the above.

44. Which code fragment calculates the cos(60°)?

1)
```
import math
math.cos(60)
```
2)
```
import Math
Math.cos(60)
```
3)
```
import math
math.cos(60*math.pi/180)
```
4)
```
import math
math.cos(60*180/math.pi)
```
5) None of the above choices is correct.

45. Given the following variable assignments, which Python expression gives different result from the others?

```
a, b = 7, 6
c, d = 7.0, 6.0
e, f = 0.7, 0.6
```

1) `a/b`
2) `c/d`
3) `int(e)/int(f)`
4) `float(a)/float(b)`
5) `int(c)/int(d)`

46. Which statement causes a syntax error?

1) `print(f'"I am" an engineer.')`
2) `print(f'PI is equal {3.14159>.2f}')`
3) `print(f"""I'm a good student.""")`
4) `print('sin(45) is equal {2**0.5/2}')`
5) None of the above choices causes syntax error.

47. What is the correct Python expression to compute the following mathematical expression?

$$\sqrt{2\pi n}\left(\frac{n}{e}\right)^n$$

1) `math.sqrt(2*math.pi*n)*pow(n,n/math.e)`
2) `math.sqrt(2*math.pi*n)*n**(n/math.e)`
3) `2*math.pi*n**0.5*math.pow(n/math.e,n)`
4) `((2*math.pi*n)**0.5)*n/math.e**n`
5) `(2*math.pi*n)**0.5*((n/math.e)**n)`

48. Which line of code fragment causes an error?

```
1:  a = input('Enter a: ')
2:  b = input('Enter b: ')
3:  res1 = a + b
4:  res2 = a * b
5:  print(f'result 1: {res1:^10}')
6:  print('result 2: ', res2)
```

1) lines 1 and 2
2) line 3
3) line 4
4) line 5
5) line 6

49. What should be put into the blanks **(A)** and **(B)** to make the following code fragment display the dot product of two vectors correctly? Mathematically, it is defined as:

$$\vec{A}\cdot\vec{B}=\left|\vec{A}\right|\left|\vec{B}\right|\cos(\theta)$$

```
1:  import math
2:  def dot_product(a,b,theta):
3:      res = a*b*___(A)___
4:      ___(B)___
5:
6:  a = float(input('Size of vector A: '))
7:  b = float(input('Size of vector B: '))
8:  theta = float(input(
                'Angle A-B (in degree): '))
9:  res = dot_product(a,b,theta)
10: print(res)
```

1) A: `math.cos(theta)`
   B: `print(res)`
2) A: `math.cos(math.degree(theta))`
   B: `return res`
3) A: `math.cos(math.degree(theta))`
   B: `print(res)`
4) A: `math.cos(math.radians(theta))`
   B: `return res`
5) A: `math.sin(math.radians(theta))`
   B: `print(res)`

50. Which Boolean expression can be used as a condition of **if** statement in order to check whether **n** is any odd number from **10** to **30** ?

1) `n >= 10 and n <= 30 and n%2 == 0`
2) `not(n >= 30 or n <= 10) and n%2 == 1`
3) `n >= 10 or n <= 30 or n%2 != 0`
4) `n >= 10 and n <= 30 and n//2 == 0`
5) `not n <= 10 or n >= 30 and n%2 != 0`

51. Which of the following code is equivalent to this flowchart?
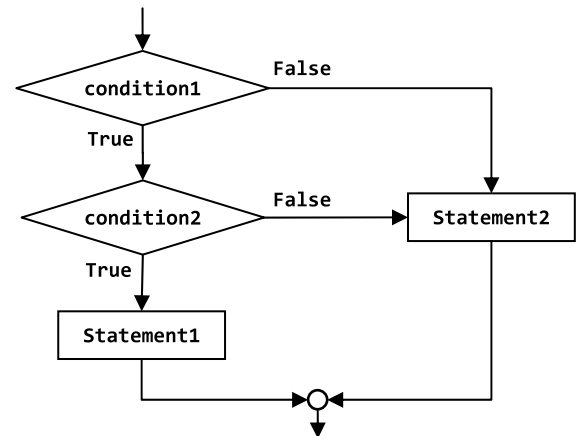
1)
```
if condition1 and condition2:
    statement1
else:
    statement2
```

2)
```
if condition1:
    if condition2:
        statement1
else:
    statement2
```

3)
```
if condition1:
    if condition2:
        statement1
    else:
        statement2
```

4)
```
if condition1 or condition2:
    statement1
else:
    statement2
```

5)
```
if not condition1:
    statement2
elif condition2:
    statement1
```

52. Which choice has a <u>different</u> result from the expression **5+4/3 < 3** ?

    1) `not (50 >= 14)`
    2) `3+8 >= 15 or 5 <= 3`
    3) `3-4 <= 10 and 3 > 3`
    4) `14/7 < 1 or not (9 < 4)`
    5) `7%3+13%4 != 2`

53. Which choice is the result of the following code fragment?

```
1:  def func1(c):
2:      b = 7
3:      b = b - a
4:      c = c * b
5:      return c
6:  a = 2
7:  b = 5
8:  c = 11
9:  a = func1(b)
10: print(a)
```

    1) 2
    2) 15
    3) 25
    4) 33
    5) 55

54. What is the result after executing the following code fragment if user inputs **10** for variable **a** and **15** for variable **b**?

```
1:  a = int(input())
2:  b = int(input())
3:  if a > 10:
4:      c = 5
5:      if b > 12:
6:          c = c+b
7:      else:
8:          c = c+a
9:      d = int(input())
10:     else:
11:         c = 12
12: print(c)
```

    1) **10** is displayed on the screen.
    2) **12** is displayed on the screen.
    3) **15** is displayed on the screen.
    4) **20** is displayed on the screen.
    5) There is a syntax error.

55. Which one gives a different result from the others?

    1) `(3**2**4)**(1/2)`
    2) `math.sqrt((3**2)**4)`
    3) `math.pow(3**2,4)**0.5`
    4) `math.sqrt(math.pow(3,2)**4)`
    5) `math.sqrt(math.pow(math.pow(3,2),4))`

56. What could be a problem of this code fragment?

```
1:  def myfunction(a,b):
2:      if a > b:
3:          return a+b
4:      elif b == a:
5:          return a-b
6:      elif a < b:
7:          return a*b
8:      else:
9:          return a/b
10:
11: a = 10
12: b = 20
13: result = myfunction(a,b)
```

    1) There is no error and nothing is wrong with this program.
    2) There is no error, but the logic may be wrong because line 9 is never executed.
    3) The program has a syntax error because of incorrect Boolean expressions.
    4) The program has a syntax error because the defined function returns value incorrectly.
    5) Program cannot be executed as there is a syntax error.

57. What is the result after executing the following code fragment?

```
1:  a = 5
2:  1+2+3+4+5
3:  b = 10*5
4:  print(b)
```

    1) 50
    2) 15
       50
    3) 5
       15
       50
    4) 5
       15
       50
       50
    5) There is a syntax error.

58. What is the result after executing the following code fragment?

```
 1: def myfunction(a):
 2:     if a > b:
 3:         return a+b
 4:     else:
 5:         return a-b
 6:
 7: a = 20
 8: b = 10
 9: result = myfunction(a)
10: print(result)
```

   1) **10** is displayed on the screen.

   2) **20** is displayed on the screen.

   3) **30** is displayed on the screen.

   4) There is a syntax error because the defined function is incorrectly written.

   5) There is a syntax error because **b** is not defined in the function.

59. What is the most appropriate data type to store a phone number?

   1) `int`

   2) `float`

   3) `string`

   4) `bool`

   5) Choices 1), 2) and 3) are correct.

60. Which Boolean expression is NOT equivalent to the statement "**i** is an even number"?

   1) `i%2 < 1`

   2) `i%2 == 0`

   3) `i%2 != 1`

   4) `not (i%2 > 0)`

   5) `not (i%2 != 1)`