a valid Python expression?NO 1. Is the literal 4

2. Is the variable x a valid Python expression?NO

3. Is x + 4 a valid Python expression?YES but x can be defined

4. What affect does the unary + operator have when applied to a numeric expression?
–Sum numbers

5. Sort the following binary operators in order of high to low precedence: +, –, *, //, /, %, =.
: * , / , // , % , + , – , =
6. Given the following assignment:
x = 2
Indicate what each of the following Python statements would print.
(a) print("x")›››:x
(b) print('x')›››:x
(c) print(x)›››:2
(d) print("x + 1")›››:x+1
(e) print('x' + 1)›››:error
(f) print(x + 1)›››:3
7. Given the following assignments:
i1 = 2
i2 = 5
i3 = –3
d1 = 2.0
d2 = 5.0
d3 = –0.5
Evaluate each of the following Python expressions.
(a) i1 + i2›››=7
(b) i1 / i2›››=0.4
(c) i1 // i2›››=0
(d) i2 / i1›››=2.5
(e) i2 // i1›››=2
(f) i1 * i3›››=–6
(g) d1 + d2›››=7.0
(h) d1 / d2›››=0.4
(i) d2 / d1›››=2.5
(j) d3 * d1›››=–1.0
(k) d1 + i2›››=7.0
(l) i1 / d2›››=0.4
(m) d2 / i1›››=2.5
(n) i2 / d1›››=2.5
(o) i1/i2*d1›››=0.8
0.8=‹‹‹(p) d1*i1/i2

q) d1/d2*i1›››=0.8
(r) i1*d1/d2›››=0.8
(s) i2/i1*d1›››=5
(t) d1*i2/i1›››=5
(u) d2/d1*i1›››=5
(v) i1*d2/d1›››=5
8. What is printed by the following statement:
#print(5/3)
–this is just a comment and nothing will be printed
9. Given the following assignments:
i1 = 2
i2 = 5
i3 = –3

d1 = 2.0
d2 = 5.0
d3 = -0.5
Evaluate each of the following Python expressions.
(a) i1 + (i2 * i3) ›››=-13
(b) i1 * (i2 + i3) ›››=4
(c) i1 / (i2 + i3) ›››=1.0
(d) i1 // (i2 + i3) ›››=1
(e) i1 / i2 + i3›››=-2.6
(f) i1 // i2 + i3›››=-3
(g) 3 + 4 + 5 / 3›››=8.66
(h) 3 + 4 + 5 // 3›››=8
(i) (3 + 4 + 5) / 3›››=4.0
(j) (3 + 4 + 5) // 3›››=4
(k) d1 + (d2 * d3) ›››=-0.5
(l) d1 + d2 * d3›››=-0.5
(m) d1 / d2 - d3›››=-0.5
(n) d1 / (d2 - d3) ›››=0.3636...
(o) d1 + d2 + d3 / 3›››=2.88...
(p) (d1 + d2 + d3) / 3›››=2.166...
(q) d1 + d2 + (d3 / 3) ›››=7.66...
(r) 3 * (d1 + d2) * (d1 - d3) ›››=52.5
10. What symbol signifies the beginning of a comment in Python?
#
11. How do Python comments end?
if change the line comments end.

12. Which is better, too many comments or too
few comments?

-Comments are useful and should be used
where explanations are needed in
the program

13. What is the purpose of comments?
-Explanation about a part of the program

14. Why is human readability such an important consideration?
For programmers to understand codes more easily and quickly
15. What circumstances can cause each of the following run-time errors to arise?
· NameError
-undefind variable

· ValueError
- When a wrong expression is given to the function

· ZeroDivisionError
- When dividing a number by zero

· IndentationError
-python declares blocks by indentation,so unnecessary indentation may cause this error

· OverflowError
-When a mathematical expression has a very large result

· SyntaxError
-When the code is incomplete or the way it is written is wrong

· TypeError
–When we use incompatibility types

16. Consider the following program which contains some errors. You may assume that the co within the program accurately describe the program's intended behavior.

```
# Get two numbers from the user
n1 = float(input()) # 1
n2 = float(input()) # 2
# Compute sum of the two numbers
print(n1 + n2) # 3
# Compute average of the two numbers
print(n1+n2/2) # 4
# Assign some variables
d1 = d2 = 0 # 5
```

d1&d2 are 0, One of them is unused

```
# Compute a quotient
print(n1/d1) # 6
```

ZeroDivisionError

```
# Compute a product
n1*n2 = d1 # 7
```

d1=n1*n2

```
# Print result
print(d1) # 8
```

For each line listed in the comments, indicate whether or not an interpreter error, run-time e or logic error is present. Not all lines contain an error.

17. Write the shortest way to express each of the following statements.

(a) x = x + 1›››=x+=1
(b) x = x / 2›››=x/=2
(c) x = x – 1›››=x–=1
(d) x = x + y›››=x+=y
(e) x = x – (y + 7) ›››=x–=y+7
(f) x = 2*x›››=x*=2
(g) number_of_closed_cases = number_of_closed_cases + 2*ncc
›››=number_of_closed_cases_+=2*nnc

18. What is printed by the following code fragment?

```
x1 = 2
x2 = 2
x1 += 1
x2 –= 1
print(x1) ›››=3
print(x2) ›››=1
```

Why does the output appear as it does?

X1+=1 means x1=x1+1 and x2–=1 means x2=x2–1

19. Consider the following program that attempts to compute the circumference of a circle gi radius entered by the user. Given a circle's radius, r, the circle's circumference, C is given by formula:

C = 2pr

R is not defined yet

```
r = 0
PI = 3.14159
# Formula for the area of a circle given its radius
C = 2*PI*r
# Get the radius from the user
r = float(input("Please enter the circle's radius: "))
```

should be above c=2*PI*r

Amir mahdi sadeghi

```
# Print the circumference
print("Circumference is", C)
```

a) The program does not produce the intended result. Why? explaind above

b) How can it be repaired so that it works correctly?

```
PI=3.14159
R=float(input("please the circles radius:"))
C=2*r*PI
Print("circumfernce")
```

20. Write a Python program that Calculate the average of two numbers

```
print("please enter the numbers")
a=int(input())
b=int(input())
avrage=(a+b)/2
print("avrage:")
print(avrage)
```

21. Write a Python program that Calculate the area of the square

```
print("please enter the side size")
sidesize=int(input()
square=sidesize*sidesize
print("square:")
print(square)
```