Debugging Questions – Python

1) The following code snippet recursively finds the sum of n natural numbers. Find the error:

```
def S(n):
        if n==0 && n==1:
                return 1
        else:
                return n + S(n-1)

print("Sum= ",S(4))
```

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2) Following snippet yields the ASCII value of 'A'. Find the error, if any.

```
yield='A'
print("Ascii: ",(int)yield)
```

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3) Following snippet removes duplicate elements from list returning another list. Debug it

```
def dedupe_v1(x):
        y=[]
        for i in x:
                if i not in y:
                        y.append(i)
        return y
def dedupe_v2(x):
        return set(dict(x))  // shd be list(set(x))
a=[1,2,3,4,3,2,1]
print dedupe_v1(a)
print dedupe_v2(a)
```

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4) The following code snippet prints the pattern shows below:

```
*
* *
* * *
* * * *
```

```
for i in range(1,5):
    for j in range(1,i):
        print("*  ")
   print("  ",end='')
```

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5) Following code prints sum of all digits present in the number. Find the error

```
n=1234
i=n
while(i>0):
    r=i%10
    Sum=r
    i=i/10
print(Sum)
```

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6) Following code checks if a number is palindrome or not. Debug it

```
reverse=0
n=12321
while(n>0):
    r=n%10
    reverse+=r
    n=int(n/10)
if(n==reverse):
```

```
    print(“Palindrome”)
else:
    print("Not Palindrome")
```

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7)Following program prints the output for operation a%b where ‘a’=21 and ‘b’ ranges from -10 to 11.Find the error.

```
def func():
   for i in range(-10,11)
       print("Remainder for ",i,"= ",21%i)
```

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8) Find the error in following.

```
def f(a):
   return 10 if a>20 else return 20
b=f(20)
print(b)
```

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9) Following uses list comprehension to find odd numbers in input. Debug it

```
values = [1,2,3,4,5,6,7,8,9]
numbers = [x for x in values.split(",") if int(x)%2!=0]
print ",".join(numbers)
```

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10) The following code snippet adds the elements of list “j” along with that of list “i”. Find the error.

```
i=[1,2,3,4,5]
j=[6,7,8]
i.append(j)
print(i)
```

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11)The following program prints “CodeWars!” infinitely in an infinite loop.

Find the error.

```
def func():
   while():
      print("CodeWars!")
```

---

12) The following code produces Fibonacci series of first n terms. Debug it

```
      def fibonacci():
            num = int(input("How many numbers that generates?:"))
            i = 1
            if num == 0:
               fib = []
            elif num == 1:
               fib = [1]
            elif num == 2:
               fib = [1,1]
            elif num > 2:
               fib = [1,1]
               while i <=(num - 1):
                  fib.append(fib[i] + fib[i-1])
                  i=i + 1
            return fib
print(fibbonacci())
input()
```

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13) The following code snippet adds (key,value) pairs to a dictionary. Find the error.

```
d={'a':1, 'b' : 2, 'c' : 3}
a='d'
b=4
d= d + {'d' , 4}
print ( d)
```

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14) The following code snippet calculates the HCF of two numbers. Find the error.

```
hcf(a,b)
        if(a%b)!=0:
                hcf(a,a%b)
        else:
                return b
```

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15) Which of the following is the correct order of evaluation for the given expression?

```
a = w % x / y * z;
```

a) % / * =

b) / * % =

c) = % * /

d) * % / =
