
RHM Public Sr. Sec. School

Assignment-2

Class XII

Computer Science

Chapter – 2: GETTING STARTED WITH PYTHON

Very Short answer Type Questions

- Q.1 When was Python released?
- Q.2 Who developed Python?
- Q.3 Which two languages contributed to Python as a Programming Language?
- Q.4 Is Python an Object Oriented Language?
- Q.5 Python got its name from which show?

Short Answer Type Questions

- Q.1 „Python is an interpreted language“. What does it mean to you?
- Q.2 What does a cross platform language mean?
- Q.3 Python is a Free and Open Source language. What do you understand by this feature?
- Q.4 In how many ways, can you work in Python?
- Q.5 What is the difference between Interactive mode and Script Mode in Python?
- Q.6 What are the advantages of Python?
- Q.7 What are the limitations of Python?

Skill Based Questions

- Q.1 Which of the following are not valid strings in Python?
(a) "Hello" (b) „Hello“ (c) "Hello" (d) „Hello“ (e) {Hello}
- Q.2 Write Instructions in python to get the following result: (Do it in both interactive mode and script mode)
I am a student of KV Barabanki
I live in Barabanki
And I love Barabanki.

Barabanki is 20 KM away from Lucknow
This Place is famous for Dewa Sharif
- Q.3 What will be the output of the following code: Give reason for your output.
#This is a Sample Code
#to print some lines
#print("Just like ")
print("Hello! how are you?")
print("Are you from India?")

Chapter – 3: PYTHON FUNDAMENTALS

Very Short answer Type Questions

- Q.1 What is None literal in Python?
- Q.2 What is the error in following code: `x, y = 7` ?

- Q.3 what will the following code do: `a=b=18` ?
- Q.4 Following code is creating problem `X = 0281`, find reason.
- Q.5 Find the error in the following code:
- (a)** `temp=90`

`Print temp`

(b) `a=12`
`b = a + b`
`print(a And b)`

(c) `print("x="x)`
-

- (d)** `a, b, c=2, 8, 4`
`print(a, b, c)`
`c, b, a = a, b, c`
`print(a; b; c)`

(e) `x = 23`
`4 = x`

(f) `else = 21-4`
- Q.6 Find the error in the following code:
- (a)** `y = x +5`
`print(x,y)`

(b) `a=input("Value: ")`
`b = a/2`
`print(a, b)`

(c) `print(x = y = 5)`

Short Answer Type Questions

- Q.1 What is the difference between a keyword and an identifier?
- Q.2 What are literals in Python? How many types of Literals allowed in Python?
- Q.3 How many types of strings are supported in Python?
- Q.4 What factors guide the choice of identifiers in program?
- Q.5 What is the difference between an expression and a statement in Python?
- Q.6 What are tokens in Python? How many types of tokens allowed in Python?
- Q.7 What are operators? What is their function? Give examples of some unary and binary operators.
- Q.8 What is block/code block/suit in Python?
- Q.9 What is the role of indentation in Python?

Skill Based Questions

- Q.1 What will be the sizes of following constants?
(a) `„\a“` (b) `"\a"` (c) `"Kumar\"s"` (d) `„\“` (e) `"it"s"`
- Q.2 How can you create multi-line strings in Python?
- Q.3 Which of the following are syntactically correct strings? State reason.
(a) `"Python is nice Language"`
(b) `„He called me "Friend!" when he came“`
(c) `"Very Good"`
(d) `„This is a good book“`
(e) `"Namaste"`
(f) `"I liked „Harry Potter“ very much"`
- Q.4 What is the error in following Python program with one statement?
`print("My name is : ", name)`
suggest a solution
- Q.5 Predict the output of the following:
`x,y=7,2`
`x,y,x=x+1,y+3,x+10`
`print(x,y)`

Q.6 What will be the output of the following code:

```
name='Hari'
age=18
print(name, ", you are ", age, " now but ", end="")
print("You will be ", age+1, " next Year")
|
```

Q.8 Predict output:

```
a,b,c=2,3,4
a,b,c=a*a,a*b,a*c
print(a,b,c)
```

Q.10 WAP to print the area of circle when radius of the circle is given by user.

Q.11 WAP to print the volume of a cylinder when radius and height of the cylinder is given by user.

Q.12 WAP that asks your height in centimeters and converts it into foot and inches.

Q.13 WAP to find area of a triangle.

Q.14 WAP to calculate simple interest.

Q.15 WAP to read a number in n and prints n^2 , n^3 , n^4

Chapter – 4: DATA HANDLING

Very Short answer Type Questions

Q.1 Identify the data types of the following values given bellow –

3, 3j, 13.0, „12“, „14“, 2+0j, 19, [1,2,3], (3,4,5)

Q.2 What will be the output of the following

(a) 12/4 (b) 14//14 (c) 14%4 (d) 14.0/4 (e) 14.0//4 (f) 14.0%4

Q.3 What will be the output of the following ?

```
print(17//4)
print(17/4)
print(len(str(17//4)))
print(len(str(17/4)))
```

Q.4 What will be the output of the following ?

(a) bool(0) (b) bool(„0“) (c) bool(int(„0“)) (d) bool(str(0.0)) (e) bool(0j) (f) bool(0.0) Q.5

Q.5 What will be the output of the following ?

(a) 87//5 (b) (87//5.0) == (87//5) (c) 87//5.0 (d) 17%5.0

Short Answer Type Questions

Q.1 What are data types? What are Python's built-in core data types?

Q.2 Which data types of Python handle Numbers?

Q.3 Why is Boolean considered a subtype of Integers?

Q.4 What do you understand by term „immutable“?

Q.5 What will be the output of the following code? Why?

(a) 13 or len(13) (b) len(13) or 13

Q.6 What are mutable and immutable types in Python? List both of them.

Q.7 What are augmented assignment operators? How are they useful?

Skill Based Questions

- Q.1 WAP to calculate compound simple interest after taking the principle, rate and time.
- Q.2 WAP to check the given year is leap year or not.
-
- Q.3 WAP to take two numbers and check that the first number is fully divisible by second number or not.
- Q.4 What will be the output of the following?
- ```
a=5-4-3
b=3**2**3
print(a)
print(b)
```
- Q.5 What will be the output of the following?
- ```
x,y=4,8
z=x/y*y
print(z)
```
- Q.6 WAP to take value of x,y,z from the user and calculate the equation
- Q.7 WAP to take the temperatures of all 7 days of the week and displays the average temperature of that week.

Chapter – 5: CONDITIONAL AND ITERATIVE STATEMENTS

Short Answer Type Questions

- Q.1 What a range() function does? Give an example.
- Q.2 What are loops in Python? How many types of loop are there in Python?
- Q.3 What is the syntax of if-elif statement in Python?
- Q.4 What are jump statements in Python? Name jump statements with example.
- Q.5 Rewrite the following code fragment using for loop.

```
i=100          num=230
while(i>0):    while num>0:
    print(i)    print(num%10)
    i-=3        num=num/10
```

- Q.6 What is the error in following code. Rewrite the correct code.

```
weather='raining'
if weather ='sunny':
    print('wear sunblock')
elif weather='snow':
    print('Going skiing')
else:
    print("None of teh above")
```

- Q.7 Rewrite the following code fragment using while loop.

```
for i in range(1,10):
    if i%3==0:
        print(i)
```

Skill Based Questions

- Q.1 WAP that searches for prime numbers from 15 through 25.
- Q.2 WAP to test if given number is prime or not.
- Q.3 WAP to compute the result when two numbers and one operator is given by user.
- Q.4 WAP to calculate the roots of a given quadratic equation.

- Q.5 WAP to input a digit and print it in words.
 Q.6 WAP to check whether square root of a given number is prime or not.
 Q.7 WAP to print first n odd numbers in descending order.
 Q.8 WAP to print the following series –
 (i) 1 4 7 1040
 (ii) 1 -4 7 -10-40
 Q.9 WAP to find the average of the list of the numbers entered through keyboard.
 Q.10 WAP to find the largest number from the list of the numbers entered through keyboard.
 Q.11 WAP to find the 2nd largest number from the list of the numbers entered through keyboard.
 Q.12 WAP to find the sum of n natural numbers.
 Q.13 WAP to find the sum of first n even numbers.
 Q.14 WAP to find the sum of first n odd numbers.
 Q.15 WAP to print the following pattern

*	*	A	0
* *	* *	A B	2 2
* * *	* * *	A B C	4 4 4
* * * *	* * * *	ABCD	8888
* * * * *	* * * * *	ABCDE	

Chapter – 6: STRING MANIPULATION

Very Short answer Type Questions

- Q.1 which of the following is not a Python legal string operation?
 (a) "abc" + "abc" (b) „abc"*3 (c) "abc" + 3 (d) "abc".lower()
 Q.2 Out of the following operators, which ones can be used with strings?
 =, -, *, /, //, %, >, <>, in, not in, <=
 Q.3 From the string S = "CARPE DIEM". Which ranges return "DIE" and "CAR"?
 Q.4 Given a string S = "CARPE DIEM". If **n** is **length/2** then what would following return?
 (a) S[:n] (b) S[n:] (c) S[n:n] (d) S[1:n] (e) S[n:length-1]
 Q.5 What would following expression return?
 (a) "Hello World".upper().lower() (b) "Hello World".lower().upper()
 (c) "Hello World".find("Wor", 1, 6) (d) "Hello World".find("Wor")
 (e) "Hello World".find("wor") (f) "Hello World".isalpha()
 (g) "Hello World".isalnum() (h) "Hello World".isdigit()
 (i) "123FGH".isdigit()

Short Answer Type Questions

- Q.1 What is a string slice? How is it useful?
 Q.2 Write a python script that traverses through an input string and prints its characters in different lines – two characters per line.
 Q.3 Which functions would you chose to use to remove leading and trailing white spaces from a given string?
 Q.4 Suggest appropriate functions for the following tasks –
 (a) To check whether the string contains digits.
 (b) To find the occurrence a string within another string.
 (c) To convert the first letter of a string to upper case.

-
- (d) To convert all the letters of a string to upper case.
 - (f) To check whether all the letters of the string are in capital letters.
 - (g) to remove all the white spaces from the beginning of a string.

Q.5 Find the errors -

```
s="PURA VIDA"  
Print(s[9] + s[9:15])
```

Q.6 Find the output – if we give input as "Hello"

```
S=input("Enter String")  
RS=""  
for ch in S:  
    RS=ch+RS  
print(S+RS)
```

```
S=input("Enter String")  
RS=""  
for ch in S:  
    RS=ch*2+RS  
print(RS+S)
```

Skill Based Questions

Q.1 WAP to print following pattern without using any nested loop.

```
#  
# #  
# # #  
# # # #  
# # # # #
```

Q.3 WAP to check the given string is palindrome or not.

Q.4 WAP that:

- o Prompt the user for a string
- o Extract all the digits from the string.
- o If there are digits
 - Sum the collected digits together.
 - Printout:
 - The original string
 - The digits
 - The sum of the digits
- o If there are no digits
 - Print the original string
 - A message "Has no Digits"

Chapter – 7: LIST MANIPULATION

Very Short answer Type Questions

Q.1 What do you understand by mutability?

Q.2 Start with the list[8,9,10]. Do the following using list functions

- (a) Set the second entry (index 1) to 17
- (b) Add 4, 5 and 6 to the end of the list.
- (c) Remove the first entry from the list.
- (d) Sort the list.
- (e) Double the list.
- (f) Insert 25 at index 3

Q.3 If a is [1, 2, 3], what is the difference (if any) between a*3 and [a, a, a]?

- Q.4 If a is [1, 2, 3], is a *3 equivalent to a + a + a?
- Q.5 If a is [1, 2, 3], what is the meaning of a [1:1] = 9?
- Q.6 If a is [1, 2, 3], what is the meaning of a [1:2] = 4 and a [1:1] = 4?
- Q.7 What are list slices?
- Q.8 Does a slice operator always produce a new list?

Short Answer Type Questions

- Q.1 How are lists different from strings when both are sequences?
- Q.2 What are nested Lists?
- Q.3 Discuss the utility and significance of Lists.
- Q.4 What is the purpose of the del operator and pop method? Try deleting a slice.
- Q.5 What are list slices?
- Q.6 What do you understand by true copy of a list? How is it different from shallow copy?
- Q.7 Predict the output –
- ```
L1=[1,3,5,7,9]
print(L1==L1.reverse())
print(L1)
```

- Q.8 Predict the output –
- ```
List1=[13,18,11,16,13,18,13]
print(List1.index(18))
print(List1.count(18))
List1.append(List1.count(13))
print(List1)
```

Chapter – 8: DICTIONARIES

Very Short answer Type Questions

- Q.1 Why can't List can be used as keys?
- Q.2 What type of objects can be used as keys in dictionary?
- Q.3 Can you change the order of the dictionaries contents?
- Q.4 Can you modify the keys in a dictionary?
- Q.5 Can you modify the value in a dictionary?
- Q.6 Is dictionary Mutable? Why?

Short Answer Type Questions

- Q.1 How are dictionaries different from Lists?
- Q.2 When are dictionaries more useful than lists?
- Q.3 Discuss the utility and significance of Dictionaries.
- Q.5 How is clear() function different from del <dict> Statement?
- Q.6 What is the output produced by the following code -
- ```
d1={5:[6,7,8], "a": (1,2,3) }
print(d1.keys())
print(d1.values())
```

### Skill Based Questions

- Q.1 WAP that repeatedly asks the user to enter product names and prices. Store all of them in a dictionary whose keys are product names and values are prices. And also write a code to search an item from the dictionary.
- Q.2 WAP to create a dictionary named year whose keys are month names and values are their corresponding number of days.

## Chapter – 9: INTRODUCING PYTHON MODULES

### Very Short answer Type Questions

- Q.1 Write a python code to import math module.
- Q.2 How can the function sqrt() be used in Python?
- Q.3 find the error in the following code –

```
def main():
(a) print("Hello")

(b) func2():
 print(2+3)
```

### Short Answer Type Questions

- Q.1 What is the significance of modules?
- Q.2 What are docstrings? What is their significance? Give example to support your answer.
- Q.3 What is dot notation of referring to objects inside a module?
- Q.4 Why should the from <module> import <objct> statement be avoided to import objects?
- Q.5 What do you understand by standard library of Python?
- Q.6 Explain the difference between *import<module>* and *from<module> import* statements, with examples.
- Q.7 What is a function? How is it useful?
- Q.8 What is an argument? Give an example of one.

### Skill Based Questions

- Q.1 Create a module with functions for future value, present value and compound interest.
- Q.2 Create a module shape.py with the functions of areas and volumes of different shapes.