1) What are the types of Applications? Applications are of three main types:
- Desktop Applications – Run on computers (e.g., MS Word).
- Web Applications – Run on browsers (e.g., Gmail).
- Mobile Applications – Run on smartphones (e.g., WhatsApp).
2) What is Programming?
Programming is the process of writing instructions (code) that tell a computer what to do.
3) What is Python?
Python is a high-level, interpreted, and object-oriented programming language known for its simplicity and readability.
4) Python program to check if a number is positive, negative or zero num = float(input("Enter a number: "))
if num > 0:
print("Positive number") elif num < 0:
print("Negative number") else:
print("Zero")
5) Python program to find factorial num = int(input("Enter a number: ")) fact = 1
for i in range(1, num + 1):
fact *= i
print("Factorial is:", fact)
6) Python program for Fibonacci series n = int(input("Enter range: "))
a, b = 0, 1
for i in range(n):
print(a, end=" ") a, b = b, a + b
7) How is memory managed in Python? Python manages memory using:
- Automatic garbage collection
- Dynamic memory allocation
- Reference counting to free unused memory.
8) What is the purpose of the continue statement in Python?
The continue statement skips the current iteration of a loop and moves to the next one.
9) Swap two numbers with and without temp variable # With temp variable
a, b = 5, 10
temp = a a = b

b = temp print(a, b)
# Without temp variable a, b = 5, 10
a, b = b, a print(a, b)
10) Check if number is even or odd num = int(input("Enter number: ")) if num % 2 == 0:
print("Even") else:
print("Odd")
11) Check if letter is vowel or not ch = input("Enter a letter: ").lower() if ch in 'aeiou':
print("Vowel") else:
print("Consonant")
12) Sum of three integers; if two are equal → sum = 0 a, b, c = map(int, input("Enter three numbers: ").split()) if a == b or b == c or a == c:
print(0) else:
print(a + b + c)
13) Return true if two integers are equal or their sum/difference is 5 a, b = map(int, input("Enter two numbers: ").split())
if a == b or abs(a - b) == 5 or (a + b) == 5: print(True)
else:
print(False)
14) Sum of first n positive integers n = int(input("Enter n: "))
sum_n = n * (n + 1) // 2 print("Sum is:", sum_n)
15) Calculate the length of a string s = input("Enter string: ") print("Length:", len(s))
16) Count character frequency in a string s = input("Enter string: ")
freq = {} for ch in s:
freq[ch] = freq.get(ch, 0) + 1
print(freq)

17) What are negative indexes and why are they used?
Negative indexes access elements from the end of a list or string. Example:

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s = "Python"
print(s[-1]) # Output: n
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18) Count occurrences of a substring in a string s = input("Enter string: ")
sub = input("Enter substring: ") print("Occurrences:", s.count(sub))
19) Count occurrences of each word in a string s = input("Enter string: ")
words = s.split() freq = {}
for word in words:
freq[word] = freq.get(word, 0) + 1 print(freq)
20) Combine two strings and swap first two characters
a = input("Enter first string: ")
b = input("Enter second string: ") new_a = b[:2] + a[2:]
new_b = a[:2] + b[2:] print(new_a + " " + new_b)
21) Add ‘in’ or ‘ly’ at end of string s = input("Enter string: ")
if len(s) >= 3:
if s.endswith('ing'):
s += 'ly' else:
s += 'ing' print(s)
22) Reverse string if its length is multiple of 4 s = input("Enter string: ")
if len(s) % 4 == 0:
s = s[::-1]
print(s)
23) String made of first 2 and last 2 chars s = input("Enter string: ")
if len(s) < 2:
print("") else:
print(s[:2] + s[-2:])
24) Insert a string in the middle of another string def insert_middle(main, word):
mid = len(main) // 2
return main[:mid] + word + main[mid:]

print(insert_middle("HelloWorld", "Python"))
25) What is a List? How will you reverse it?
A list is an ordered, mutable collection in Python. Example:
lst = [1, 2, 3, 4]
lst.reverse() print(lst)
# OR
print(lst[::-1])
26) Remove last object from a list lst = [1, 2, 3, 4]
lst.pop() print(lst)
27) If list1 = [2, 33, 222, 14, 25], what is list1[1]?
Output: 33
28) Difference between append() and extend()
Method Description Example
append() Adds a single element [1,2].append(3) → [1,2,3] extend() Adds multiple elements [1,2].extend([3,4]) → [1,2,3,4]
29) Find largest, smallest, and sum of list lst = [2, 33, 222, 14, 25]
print("Largest:", max(lst)) print("Smallest:", min(lst)) print("Sum:", sum(lst))
30) Compare two lists list1 = [1, 2, 3]
list2 = [1, 2, 3]
print(list1 == list2) # True if both are same