□ 1 □Primary Focus: Language Choice

In such tests, usually Python or C is preferred.

Language	Why Recommended	When to Choose
Python	Simple syntax, quick to code, string/list handling easy	Beginners or Degree Students
C	Strong logic-building, frequently used in colleges	Students who already practiced C in lab
C++	Used in competitive coding (faster execution)	Students with DS & Algo background

Suggestion:

For B.Sc Computers / AI / Robotics students, Python is best choice — because:

Syntax is small and clear

Easy to debug during test

String, list, loops handling easy

90% of campus platforms (Monocept, Infosys, TCS NQT etc.) accept Python

2 □What to Prepare Before the Test

A. Programming Basics

Every student should clearly know:

Input / Output (input(), print())

Loops (for, while)

Conditional Statements (if, elif, else)

Functions (define and call)

List / Array usage

String methods (split(), join(), slicing)

B. Important Coding Patterns

Concept	Example / Explanation
String reverse / Palindrome	Example: "madam" → Palindrome check
Counting words / vowels	Input a string → Output the count of words or vowels
Sum of even / odd numbers	Use range(1, N+1) to calculate sum of even or odd numbers
Missing number in array	Find missing element using the sum formula
Frequency count	Use a dictionary (dict) to count occurrences of elements
Largest / smallest element	Use built-in functions max() and min()
Prime number check	Use loops and conditions to test for primality
Factorial or Fibonacci	Implement using recursion or loops

C. Input/Output Formatting Practice

Portal usually tests exact output format:

No extra text like “Enter a number:”

Output exactly as in question (case-sensitive)

✅ Example:

Input:

5

1 2 3 4 5

Output:

15

❌ Not allowed:

Enter numbers:

Sum is 15

⚙ 3 ☐Platform Preparation

If the contest is on Abhyas Portal / HackerRank / HackerEarth,

students should know:

How to give custom input

How to handle multiple inputs in one line → list(map(int, input().split()))

How to check sample test cases

How to submit one question at a time

□ 4 □Smart Preparation Strategy

Time	What to Do
Day before exam	Revise syntax and practice 6 mock test questions
Exam day (before test)	Open IDE or practice on OnlineGDB / HackerRank
During test	Attempt questions in order: Easy → Moderate → Hard
If stuck	Skip the question and return later (no negative marks)

□ 5 □Final Topics to Revise (One Last Time)

Area	Key Concepts
Loops	for, while, and nested loops
Strings	Slicing, counting, palindrome check
Lists	Sum, sort, max, min, find missing element
Math	Factorial, Fibonacci, even/odd numbers
Functions	Parameter passing and function usage
Dictionary	Frequency count using key–value pairs
Input/Output	Awareness of exact output format

🚀 In Short – My Recommendation

🎯 Language: Python

🎯 Topics: String, List, Loop, Condition, Function

🎯 Practice Platform: HackerRank / OnlineGDB

🎯 Time per question: 10–15 mins

🎯 Goal: 4 out of 6 questions working → Top performance ✅

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 EASY LEVEL (2 Questions)

Q1. Reverse a Number

Problem: Given a number N, print its reverse.

Example Input: 12345

Output: 54321

Python Solution:

```
n = int(input())
rev = 0
while n > 0:
    rem = n % 10
    rev = rev * 10 + rem
    n = n // 10
print(rev)
```

Q2. Check if a String is Palindrome

Problem: Given a string, check if it reads the same forward and backward.

Example Input: madam

Output: Palindrome

Python Solution:

```
s = input()
if s == s[::-1]:
    print("Palindrome")
else:
    print("Not Palindrome")
```

 MODERATE LEVEL (2 Questions)

Q3. Find the Second Largest Element

Problem: Given an array of integers, find the second largest element.

Example Input: 10 20 5 30 25

Output: 25

Python Solution:

```
arr = list(map(int, input().split()))
arr = list(set(arr))  # remove duplicates
arr.sort()
if len(arr) < 2:
  print("No second largest")
else:
   print(arr[-2])
```

Q4. Count Frequency of Each Character

Problem: Given a string, print frequency of each character.

Example Input: banana

Output:

b - 1

a - 3

n - 2

Python Solution:

```
s = input()
freq = {}
for ch in s:
    freq[ch] = freq.get(ch, 0) + 1
for k, v in freq.items():
    print(k, "-", v)
```

HARD LEVEL (2 Questions)

Q5. Find the Longest Word in a Sentence

Problem: Given a sentence, find the longest word and its length.

Example Input:

Artificial Intelligence and Robotics

Output:

Intelligence

12

Python Solution:

```
sentence = input().split()
longest = max(sentence, key=len)
```

```
print(longest)
print(len(longest))
```

Q6. Sum of All Subarrays (Logic Question)

Problem: Given an array, find the total sum of all possible subarrays.

Example Input: 1 2 3

Output: 20

(Explanation: Subarrays → [1], [2], [3], [1,2], [2,3], [1,2,3] → sums = 1+2+3+3+5+6 = 20)

Python Solution:


```
arr = list(map(int, input().split()))
n = len(arr)
total = 0
for i in range(n):
    total += arr[i] * (i + 1) * (n - i)
print(total)
```

 "In short, what to learn level-wise?" ✅

Level	Concepts Needed	Practice Tips
Easy	Loops, Conditions, Strings, Numbers	Learn basic syntax and do dry runs

Level	Concepts Needed	Practice Tips
Moderate	Arrays, Dictionaries, Sorting	Practice list operations and functions
Hard	Logic building, Patterns, Subarrays	Focus on nested loops and algorithmic thinking

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⚙ Practice Strategy

1. First 3 Days: Easy level programs

2. Next 3 Days: Moderate problems

3. Next 4 Days: Hard problems + optimize your code

4. Final 2 Days: Practice in HackerRank test format (input/output only)

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EASY LEVEL (3 Programs)

Q1. Sum of Digits

Input:

1234

Output:

10

Python Solution:

```
n = int(input())
s = 0
while n > 0:
    s += n % 10
    n //= 10
print(s)
```

Q2. Count Vowels and Consonants

Input:

education

Output:

Vowels: 5

Consonants: 4

Python Solution:

```
s = input().lower()
vowels = "aeiou"
v = c = 0
for ch in s:
    if ch.isalpha():
        if ch in vowels:
            v += 1
        else:
            c += 1
print("Vowels:", v)
print("Consonants:", c)
```

Q3. Print Multiplication Table

Input:

5

Output:

5 x 1 = 5
5 x 2 = 10
...

5 x 10 = 50

Python Solution:

```
n = int(input())
for i in range(1, 11):
    print(f"{n} x {i} = {n*i}")
```

 MODERATE LEVEL (3 Programs)

Q4. Remove Duplicates from a String

Input:

programming

Output:

progamin

Python Solution:

```
s = input()
res = ""
for ch in s:
    if ch not in res:
        res += ch
```

```
print(res)
```

Q5. Find the Largest and Smallest Number in List

Input:

12 45 2 9 33 7

Output:

Largest: 45
Smallest: 2

Python Solution:

```
arr = list(map(int, input().split()))
print("Largest:", max(arr))
print("Smallest:", min(arr))
```

Q6. Check Armstrong Number

Input:

153

Output:

Armstrong

Python Solution:

```
n = int(input())
temp = n
s = 0
d = len(str(n))
while n > 0:
    r = n % 10
    s += r ** d
    n //= 10
if s == temp:
    print("Armstrong")
else:
    print("Not Armstrong")
```

HARD LEVEL (4 Programs)

Q7. Count Frequency of Words in a Sentence

Input:

this is this is test

Output:

this - 2

is - 2

test - 1

Python Solution:

```
words = input().split()
freq = {}
for w in words:
    freq[w] = freq.get(w, 0) + 1
for k, v in freq.items():
    print(k, "-", v)
```

Q8. Find All Prime Numbers up to N

Input:

10

Output:

2 3 5 7

Python Solution:

```
n = int(input())
for i in range(2, n+1):
    for j in range(2, int(i**0.5)+1):
        if i % j == 0:
            break
    else:
        print(i, end=" ")
```

Q9. Print Right-Angled Star Pattern

Input:

5

Output:

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

Python Solution:

```
n = int(input())
for i in range(1, n+1):
```

```
    print('*' * i)
```

Q10. Maximum Sum Subarray (Kadane's Algorithm)

Input:

-2 1 -3 4 -1 2 1 -5 4

Output:

6

Explanation: The subarray [4, -1, 2, 1] has the maximum sum = 6.

Python Solution:

```
arr = list(map(int, input().split()))
max_ending_here = max_so_far = arr[0]
for x in arr[1:]:
    max_ending_here = max(x, max_ending_here + x)
    max_so_far = max(max_so_far, max_ending_here)
print(max_so_far)
```

 Preparation Summary (Final Revision Tips)

Focus Area	Topics	Practice Time
Logic Building	Loops, Strings, Conditions	2 days
Data Structures	Arrays, Lists, Dictionaries	2 days
Algorithms	Sorting, Subarrays, Prime, Armstrong numbers	2 days
Competitive Format	Solve problems within 90 minutes (Timer Practice)	1 day

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⚡ Extra Tips for Contest Day (Nov 27)

✅ Don't copy-paste in HackerRank — type the code directly.
✅ Always test with custom inputs.
✅ Use print statements exactly as mentioned in the question (no extra text).
✅ If you solve 4 out of 6 questions correctly, you have a chance to be in the Top 3.
✅ Attempt questions in the order: Easy → Moderate → Hard.

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👉 This will be in HackerRank / Abhyas Portal format.
👉 That means: input → processing → output
👉 Practice as if you have 90 minutes to solve it.
👉 This test contains 6 questions (2 easy, 2 moderate, 2 hard).

💻🔥 FINAL MOCK TEST PAPER – IGNITE YOUR CODE PRACTICE

🕒 Time Limit: 90 Minutes

🧮 Total Problems: 6

🏆 Language Recommended: Python (You can also write in C / C++).

🟢 EASY LEVEL

Q1. Reverse and Check Palindrome

Write a program that reads a string and checks whether the reversed string is equal to the original.

Input:

madam

Output:

Palindrome

Explanation:

madam reversed is madam, so output → Palindrome.

Q2. Sum of Even Numbers

Write a program to find the sum of all even numbers from 1 to N.

Input:

10

Output:

30

Explanation:

2 + 4 + 6 + 8 + 10 = 30

 MODERATE LEVEL

Q3. Count Words and Letters

Write a program that takes a sentence and prints:

Total words

Total letters (excluding spaces)

Input:

artificial intelligence and robotics

Output:

Words: 4

Letters: 33

Q4. Find Missing Number in a Sequence

Given numbers from 1 to N (but one number missing), find the missing number.

Input:

5

1 2 4 5

Output:

3

HARD LEVEL

Q5. Frequency of Each Element

Given a list of integers, print each unique number with its frequency.

Input:

10 20 10 30 20 20 40

Output:

10 - 2
20 - 3
30 - 1
40 - 1

Q6. Longest Word and Its Length

Find the longest word in a given sentence and print that word along with its length.

Input:

data science and artificial intelligence

Output:

intelligence
12

 ✅ ANSWERS (Python Solutions)

Q1 Solution

```
s = input()
if s == s[::-1]:
    print("Palindrome")
else:
    print("Not Palindrome")
```

Q2 Solution

```
n = int(input())
total = 0
for i in range(1, n+1):
    if i % 2 == 0:
        total += i
print(total)
```

Q3 Solution

```
sentence = input()
words = sentence.split()
letters = len(''.join(words))
print("Words:", len(words))
print("Letters:", letters)
```

Q4 Solution


```
n = int(input())
arr = list(map(int, input().split()))
expected_sum = n * (n + 1) // 2
actual_sum = sum(arr)
print(expected_sum - actual_sum)
```

Q5 Solution

```
arr = list(map(int, input().split()))
freq = {}
for num in arr:
    freq[num] = freq.get(num, 0) + 1
for k, v in freq.items():
```

```
print(k, "-", v)
```

Q6 Solution

```
words = input().split()
longest = max(words, key=len)
print(longest)
print(len(longest))
```

Practice Instructions

Step	Action
1	Copy these 6 questions into your editor.
2	Run one by one on HackerRank's practice section ("Basic Programming").
3	Practice using custom input exactly as shown.
4	Practice within 90 minutes total (like real exam).
5	Verify each output with sample cases.

⚙ Tips to Perform Well Tomorrow (27 Nov):

- ✅ Start with Easy questions first (2 marks each).
- ✅ Then do Moderate (3 marks each).
- ✅ If time permits, go for Hard (5 marks each).
- ✅ Always read input/output format carefully.
- ✅ Don't print extra spaces or words like "Enter number".
- ✅ Re-check capitalization ("Palindrome" ≠ "palindrome").
- ✅ Submit one question at a time in portal.