

③ Learn To code In C, Python / Java

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④ How To master coding

* All of these are important To master coding.

- 1) Learn the basics
- 2) practice every day, incrementally work on hard problems.
- 3) Debug
- 4) Run, make planned mistakes, compile & debug
- 5) Do mini fun projects
- 6) Learn from others / GitHub
- 7) Logic building.

* find total expenses for a month?

Sol.

Pg	Food	Travel	Others
5000	4000	2000	4000

$$\text{int Pg} = 5000$$

$$\text{int Food} = 4000$$

$$\text{int Travel} = 2000$$

$$\text{int Others} = 4000$$

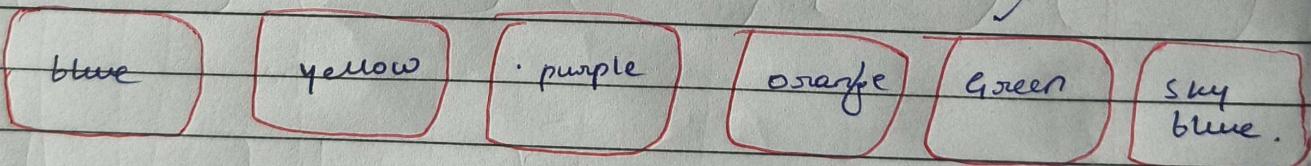
$$\text{int total} = 0$$

$$\text{total} = \text{Pg} + \text{Food} + \text{Travel} + \text{Others}$$

Point (total)

* Find if there is green color block?

→ Search



→ Notice / Read

→ one item at a time

→ compare == green

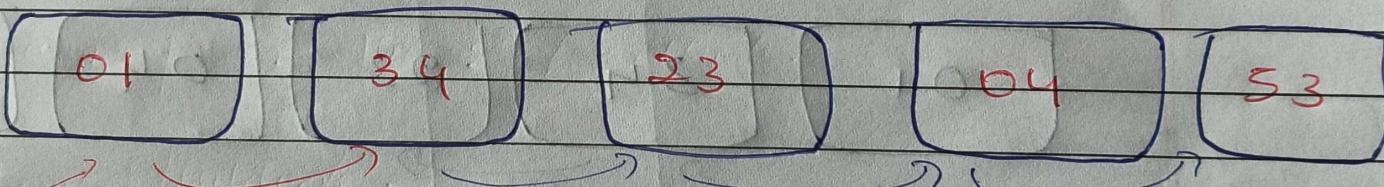
→ if yes == success / found

→ else, goto next.

Pseudo code / Algorithm :-

- Iterate over colors list / Arrays.
 - ↳ For / While.
- Check if item is green element.
 - ↳ if
- Otherwise
 - Continue to next element.

* Count of even numbers in the list ?



$$\text{Count} = 1 + 1$$

$$\text{Count} = 2$$

→ Iterate over the elements

↳ check if even
 ↳ if yes → count ++
 else
 ↳ continue.

code

int count = 0

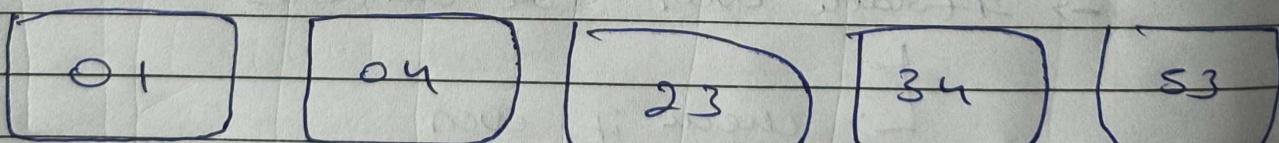
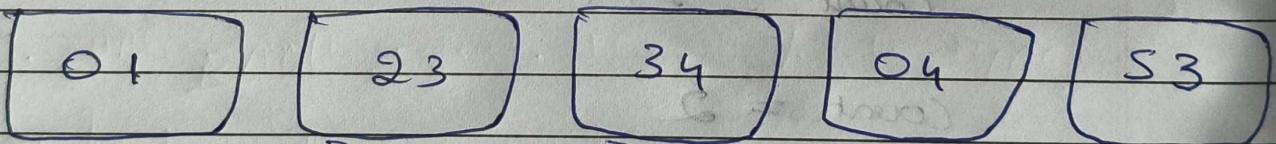
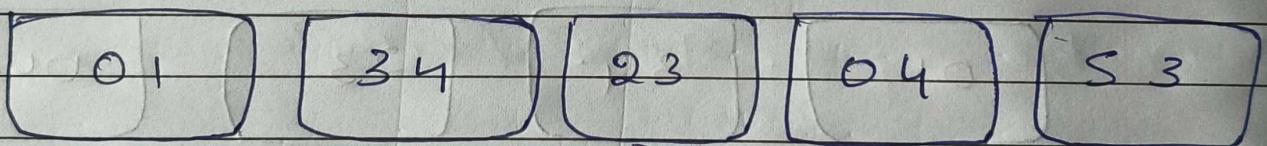
int array = [22, 4, 6, 8, 10]

for (int i=0; i<5; i++)

if (array[i] % 2 == 0)

count++;

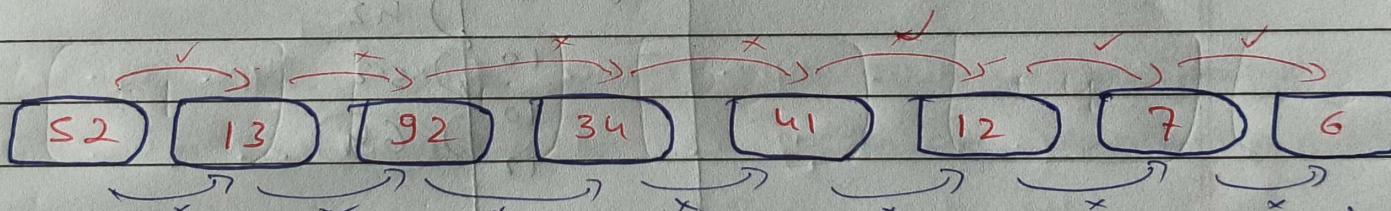
Sort these in ascending order?



Algns

- Iterate one element at a time
- compare with all other elements
- if next element is smaller
- then swap.
- if swap.

* find the highest score :-



→ highest = 52, 92.

→ lowest = 52, 13, 12, 7, 6

→ Sum. = 52 + 13 + 92 + 34 + 41 + 12 + 7 + 6.

or.

→ sum = sum + array [El].

$$\text{Avg} = \frac{\text{sum}}{8}$$

Variables And Data Types In Python

```
# Demonstrating variables and data types in Python
```

```
# String
```

```
name = "algorithms365" # String value  
print(f"String: name = {name}")
```

```
# Integer
```

```
age = 25 # Integer value  
print(f"Integer: age = {age}")
```

```
# Float
```

```
height = 5.9 # Float value  
print(f"Float: height = {height}")
```

```
# Boolean
```

```
is_active = True # Boolean value  
print(f"Boolean: is_active = {is_active}")
```

```
# Large Integer (can be used to represent long values)
```

```
large_number = 12345678901234567890 # Large integer value  
print(f"Large Integer: large_number = {large_number}")
```

Data Type	Min Value	Max Value	Number of Bits	Programming Languages Supported
bool	0 (false)	1 (true)	1	C, C++, C#, Java, Python
char	-128	127	8	C, C++, Java
unsigned char	0	255	8	C, C++
int8_t	-128	127	8	C, C++
uint8_t	0	255	8	C, C++
int16_t	-32,768	32,767	16	C, C++
uint16_t	0	65,535	16	C, C++
short	-32,768	32,767	16	C, C++, Java
unsigned short	0	65,535	16	C, C++
int	-2,147,483,648	2,147,483,647	32	C, C++, Java, Python
unsigned int	0	4,294,967,295	32	C, C++
int32_t	-2,147,483,648	2,147,483,647	32	C, C++
uint32_t	0	4,294,967,295	32	C, C++
float	~1.4E-45 (smallest positive value)	~3.4E+38 (largest positive value)	32	C, C++, Java, Python
long	-9,223,372,036,854,775,808	9,223,372,036,854,775,807	64	C, C++, Java
unsigned long	0	18,446,744,073,709,551,615	64	C, C++
int64_t	-9,223,372,036,854,775,808	9,223,372,036,854,775,807	64	C, C++
uint64_t	0	18,446,744,073,709,551,615	64	C, C++
double	~4.9E-324 (smallest positive value)	~1.8E+308 (largest positive value)	64	C, C++, Java, Python
long double	~3.4E-4932 (smallest positive value)	~1.1E+4932 (largest positive value)	80, 96, or 128	C, C++