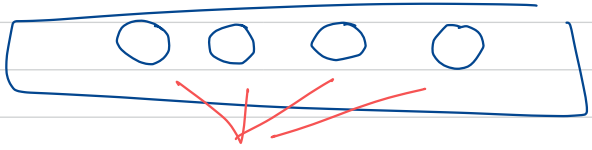
- Puzzle → Break & Make

Cold + Headache

2H + 2C



identical in appearance

1 Dose C + H

1 Dose C + H

H C C H

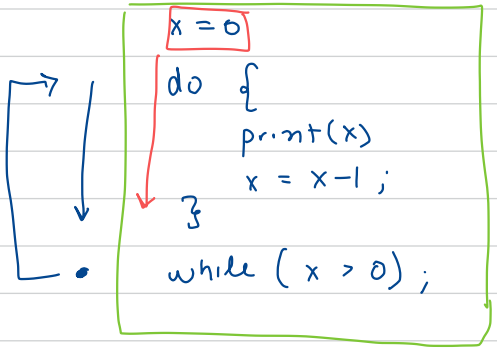
$\Rightarrow \frac{1}{2}H + \frac{1}{2}C + \frac{1}{2}C + \frac{1}{2}H$

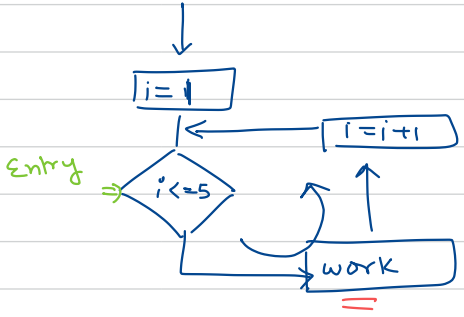
H + C

Prog Fundamentals

- ↳ Do while loop
- ↳ vs for vs while
- ↳ Switch case
- ↳ Calc
- ↳ Problems
- ↳ Break & Continue

Do while loop





⇒ do-while will execute atleast once.

while / For Loop

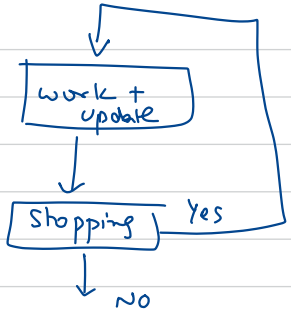
⇒ Entry Controlled Loops

```
x = 5
do {
    print(x)
    x = x-1;
}
while (x > 0);
```

0 > 0

5, 4, 3, 2, 1,

output



Q

```
money = 0;
do {
→   shopping();

}
 while (money > 0);
```

CC

Take input a ~~Number~~ stream of numbers until the sum of all inputs is positive or zero ≥0

↳ stop taking inputs when sum goes negative.

Sum= 10, 15, 23, 3, 8, -2

10, 5, 8, -20, 5, -10 -------

↑

[Stop Reading Input]

2 Mins → For / while / Do while → Your Choice

break;

```
cal = 0
while (cal <= 100) {
    if (gf_calls_up) {
        break;
    }
    cal = cal + 1;
}
Out of the loop
```

break vs return

① while [

② while [

③ if {break}

innermost / closest loop

here

]

Write a Prog

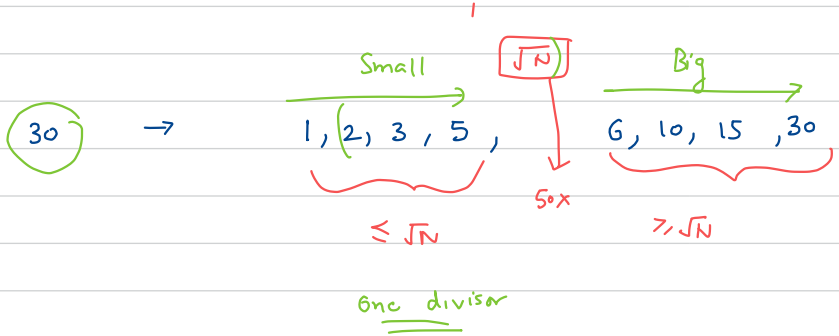
1. ✓ → checking if a NO is Prime or NOT [$\sqrt{N}$ optimisation]
2. ✓ → print all prime No's in the Range A to B

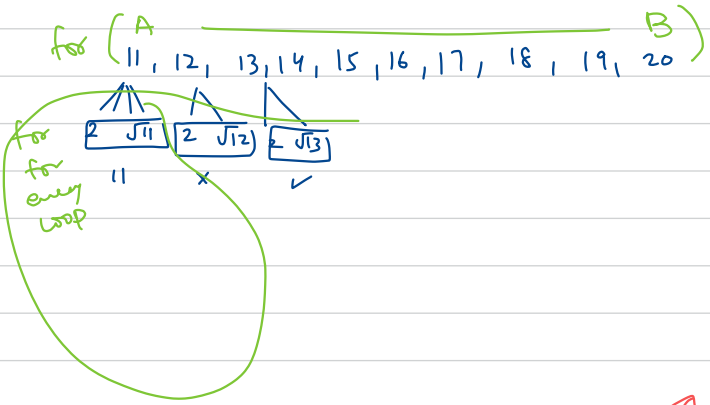
6 Mins

A = 10

B = 25

11, 13, 17, 19, 23





for (i=1 ; i<= 100; i*=2) {

i = i * 2

i=1
2
4
8
16
32
64
128 stop

7 times

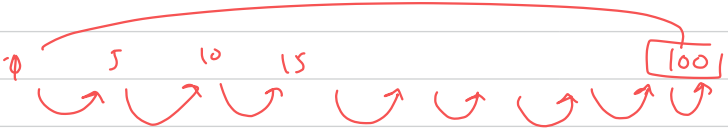
```
for (int i=1 ; i<= N ; i= i+k) {
    for (j=1 ; j<= k ; j++){
        =
        3
3
```

$\frac{N}{k}$ times

k times

N = 100

k = 5



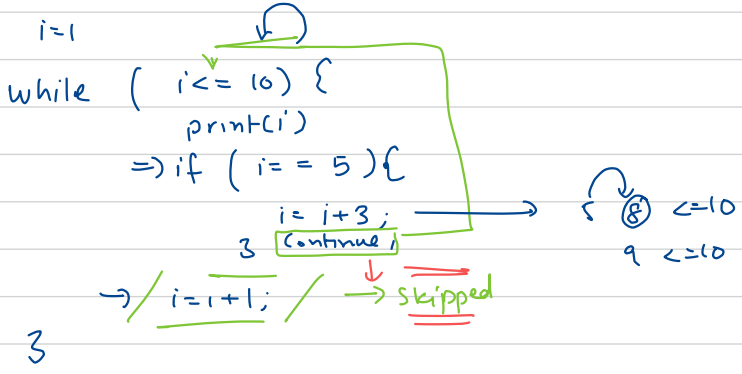
$\left(\frac{N}{k}\right) * k$ times

= N time

N ✓

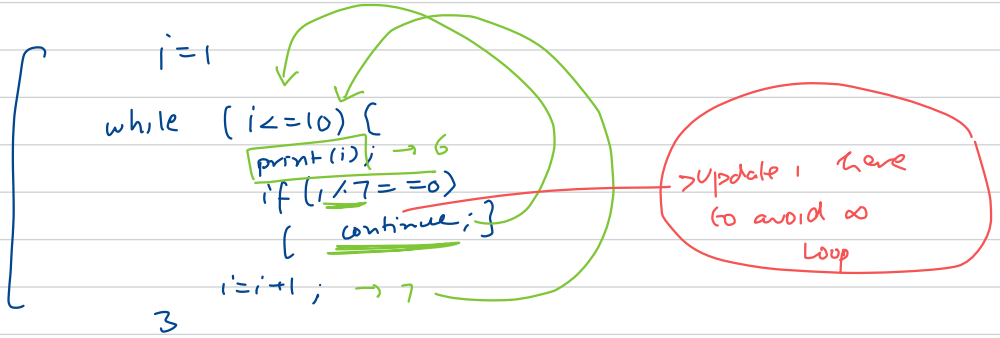
→ "continue"
→ switch case
→ Problems

10 30



if-else

1, 2, 3, 4, (5), 8, 9, 10



1, 2, 3, 4, 5, 6, 7, 7, 7, 7, 7, ---- ∞ loop

Switch Case

switch (N) {

	N	
if	1	Monday
else-if	2	Tuesday
else if	3	Wed
else-if	4	Thu
|	5	Fri
|	6	Sat
else	7	Sun

case 0 : — break;
case 1 : — break;
case 2 :
⋮
default : — break;
3

(Q) Given a no N, you want to find sum of digit

N = 1243 → 1+2+4+3 = (10)

Sum = (0) N → 1 2 4 3

+3

+4

+2

+1

(10) → final sum

1 2 4

12

1

0

N = 1243

Sum = 0

while (N > 0) {

rem = N % 10

sum = sum + rem;

N = N / 10;

}

rem = N % 10

sum = sum + rem

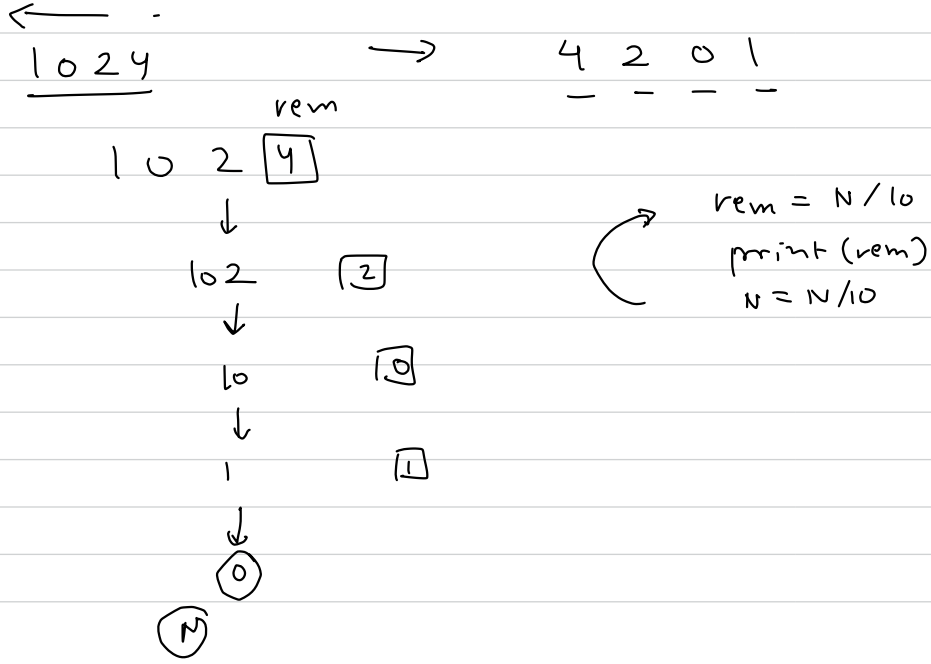
N = N / 10

3

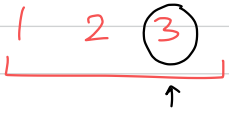
(2) Give a No, I want

- → print its Reverse
- → Reverse the actual No

1024 → 4201



rem = N / 10
print (rem)
N = N / 10



100
+ 20
+ 3

100 ⇒ 001 ⇒ 1

3 2 1

$= 3 \times 10^2$
$+ 2 \times 10^1$
$+ 1 \times 10^0$
$= 321$

→ rem = N%10
→ N = N/10

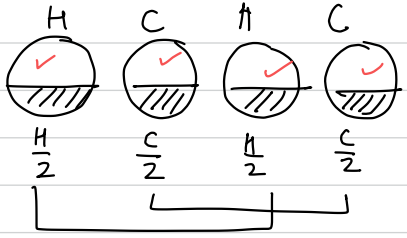
12
2
→ 1
0 stop

ans = 0

3 ans = ans × 10 + rem
= 0 × 10 + 3
= 3

2 ans = 3 × 10 + 2
= 32

1 ans = 32 × 10 + 1
= 321



= Cold + Headache

= Cold + Headache

Morning

Evening

Next Class