Keshav Seksaria

IIT BHU mnC

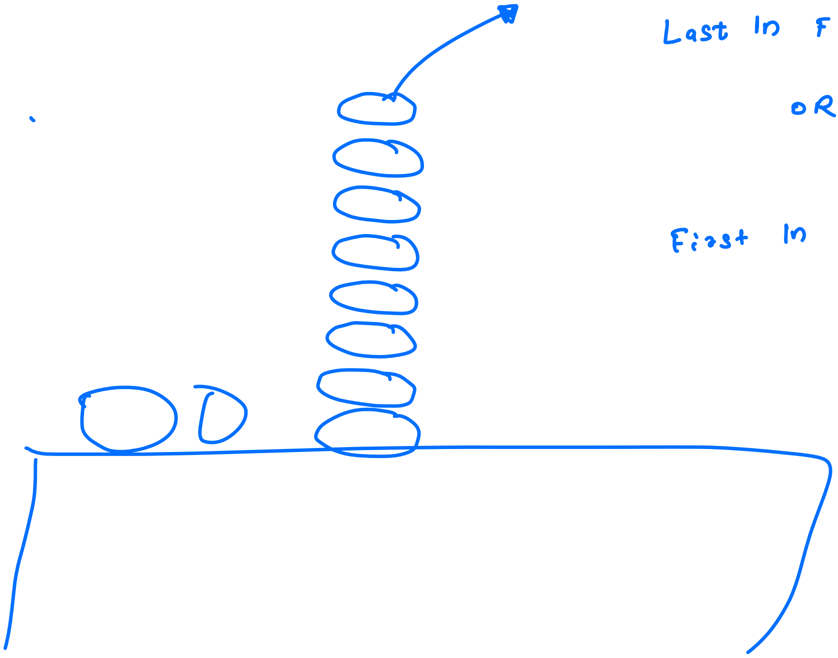
WorldQuant (HFT)

Google SWE III

- 3.5years

- 1.5y gfg

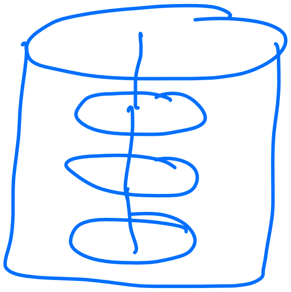
- 2y scaler



Last In First out

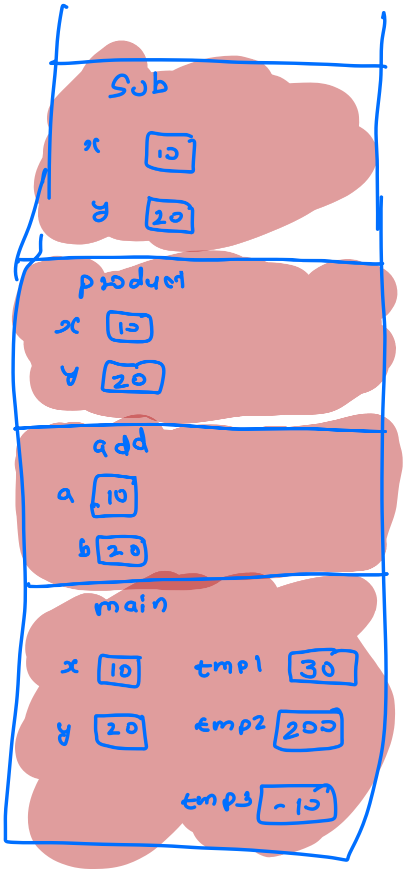
OR

First In last out



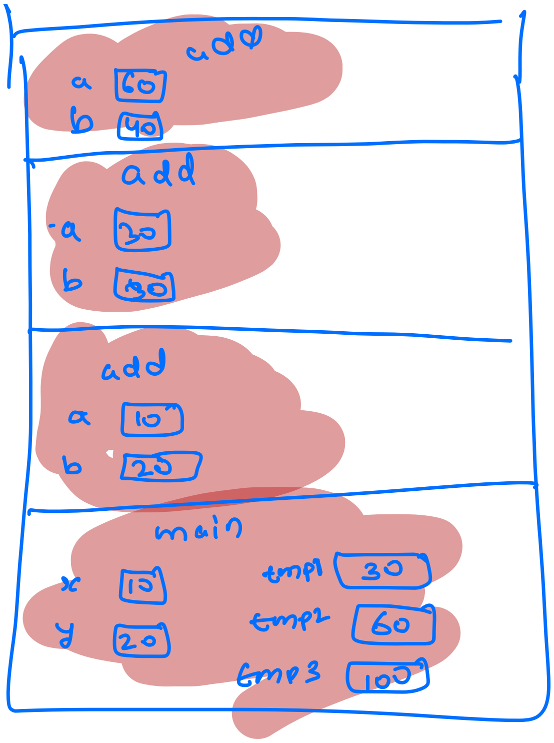
Keshav

```
int   sub (x, y)
[     return  x - y

int   product (x, y)
[     return  x * y

int  add (a, b)
[    return  a + b

     main()
[

       int  x = 10
       int  y = 20
       int  tmp1 = add (x, y)
       int  tmp2 = product (x, y)
       int  tmp3 = sub (x, y)
       print (  tmp1 + tmp2 + tmp3 )    => 220
```



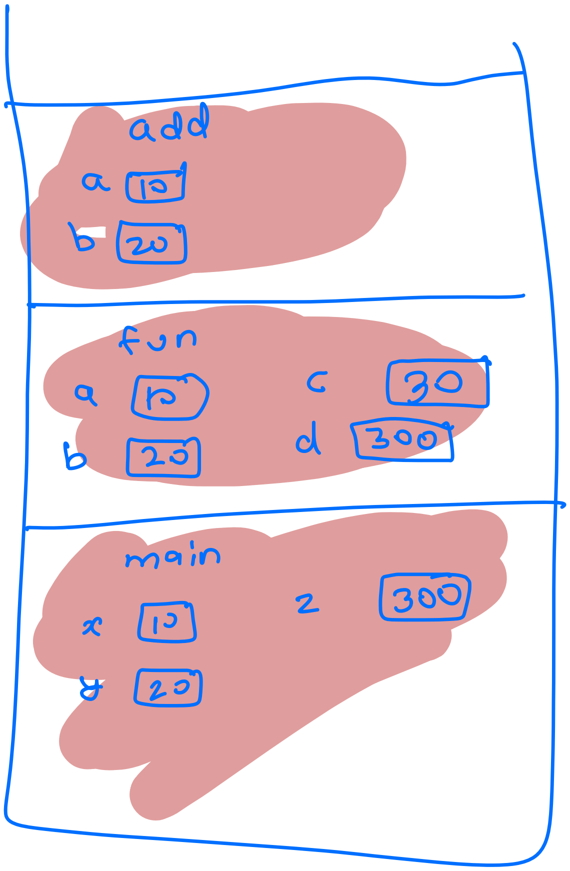
tmp2 □

tmp3 □



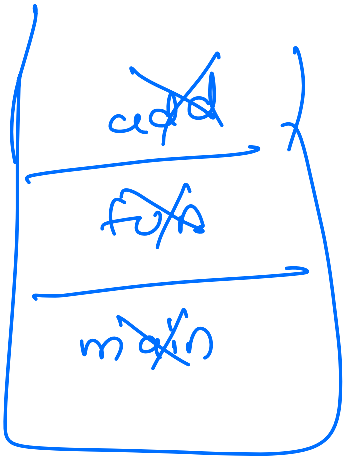
```
int add (a, b)
[ return a+b

    main()
[
    int x = 10
    int y = 20
    int tmp1 = add (x, y)
    int tmp2 = add (tmp1, 30)
    int tmp3 = add (tmp2, 40)
    print ( tmp1 + tmp2 + tmp3 )        =>    190
```

```
int  add (a, b)
{   return  a+6

 int  fun (a, b)
{
        int  c =  add (a, b)
        int  d =  10. c
        return d

       main()
{

        int  x = 10
        int  y = 20
        int  z   =  fun (x, y)
        print (z)      =>   300

}
```

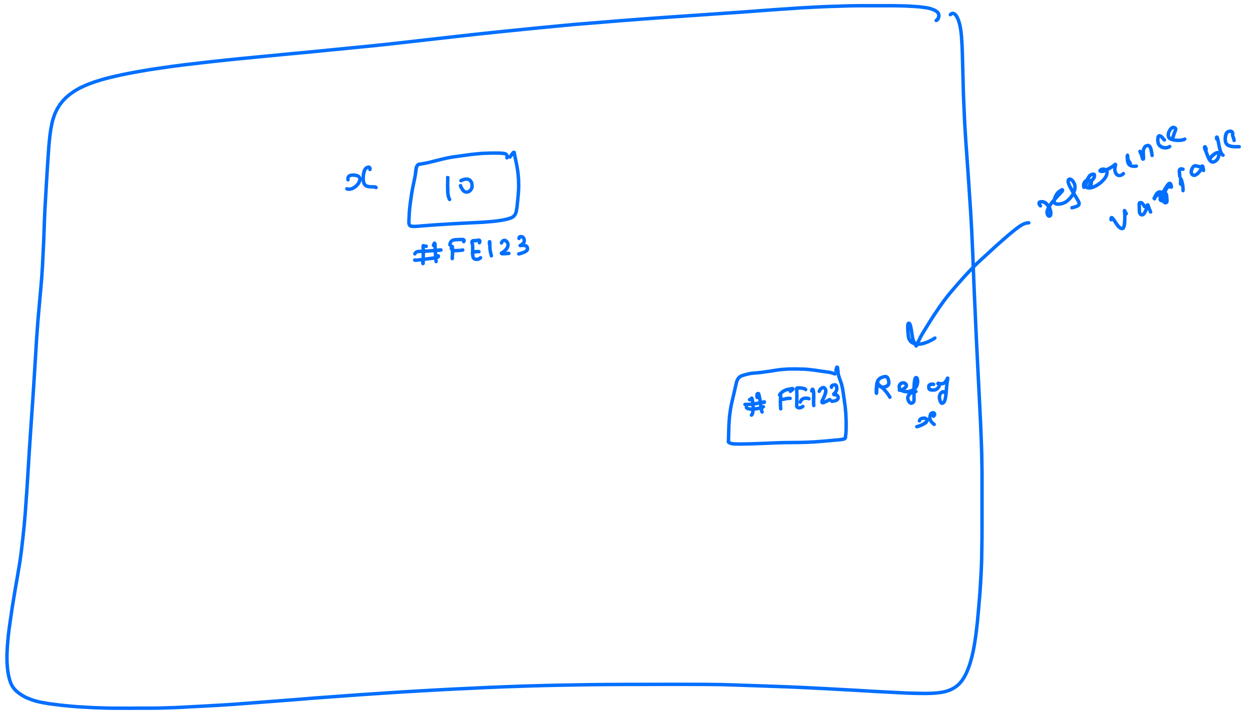


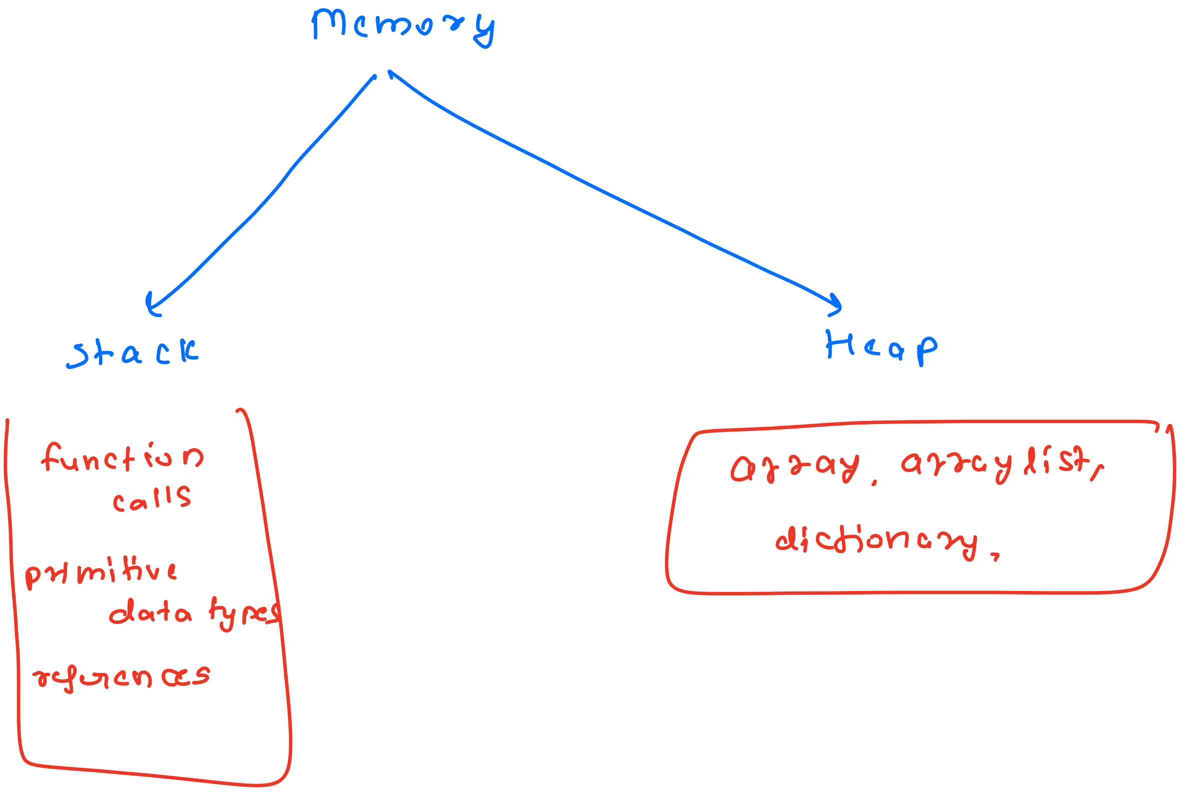
stack memory

call stack

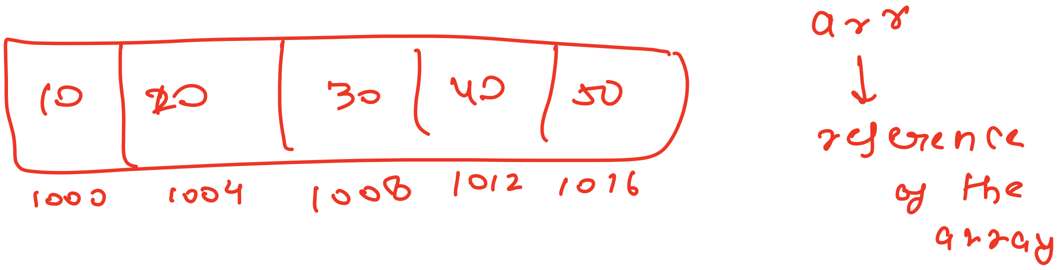


Reference / Pointer.





arr[5] = {1, 2, 3, 4, 5}



arr $\boxed{1000}$

arr[0] = 10

arr[1] = 20

arr[2] = 30

1000 + 2(4)

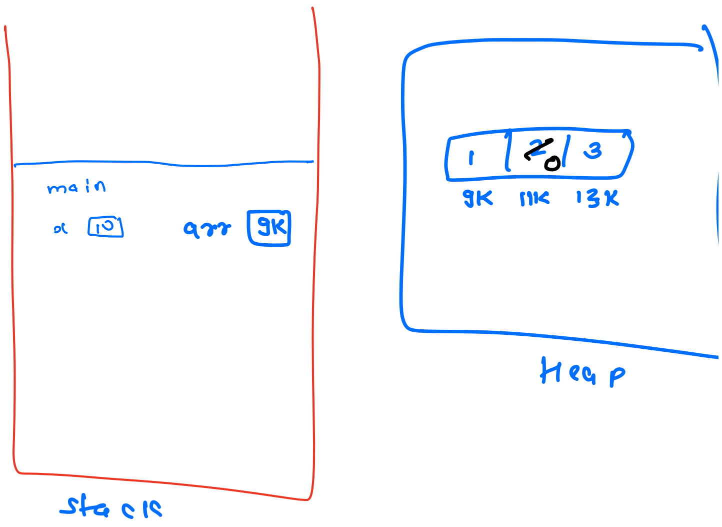
= 1008

Break
[10:02 - 10:11]

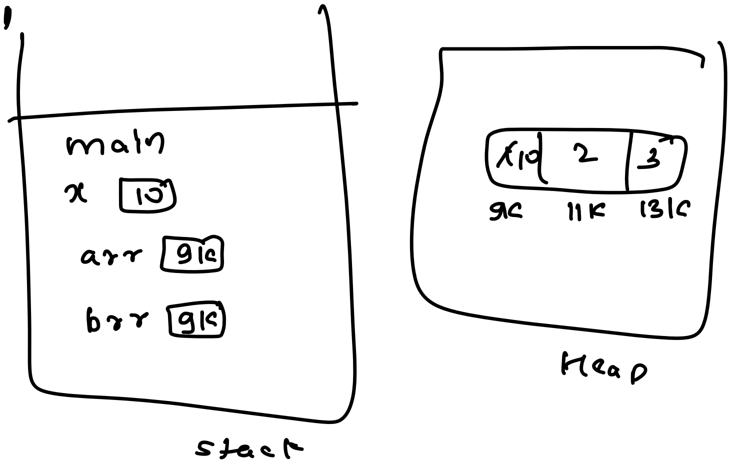
11 - 2 + 1 = 10

[a, b]   b - a + 1

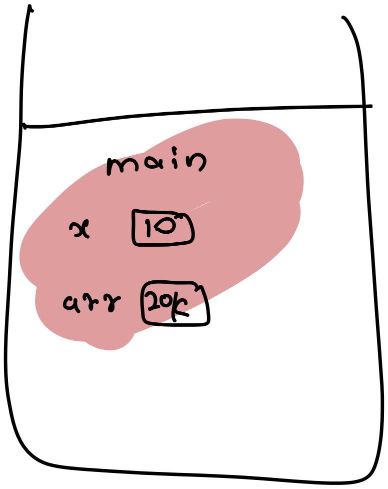
```
main ()
{
    int x = 10
    int arr[3] = {1, 2, 3}
    print (arr)          => 9K
    print ( arr[2])      => 3
    arr[1] = 0
    print ( arr[1])      => 0
```

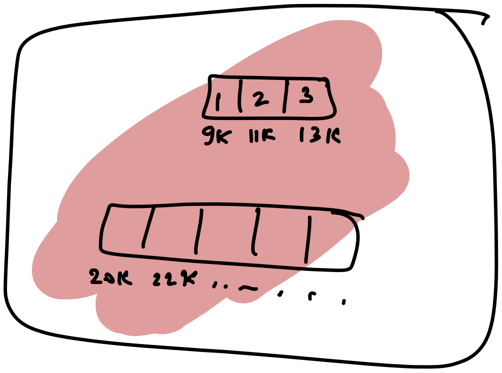


```
main ()
{
    int x = 10
    int arr[3] = {1, 2, 3}

    int brr[] = arr

    print( brr[0]) => 1

        brr[0] = 10

    print (arr[0]) => 10
```

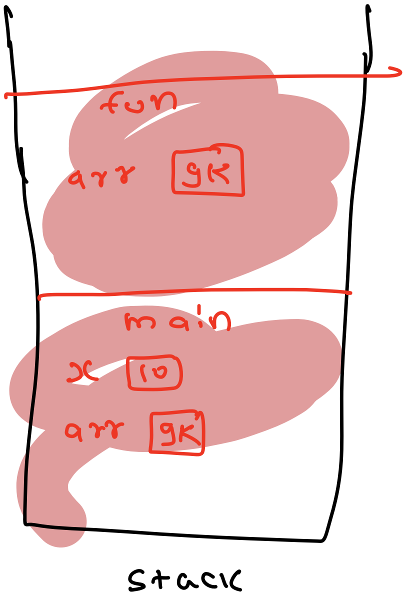


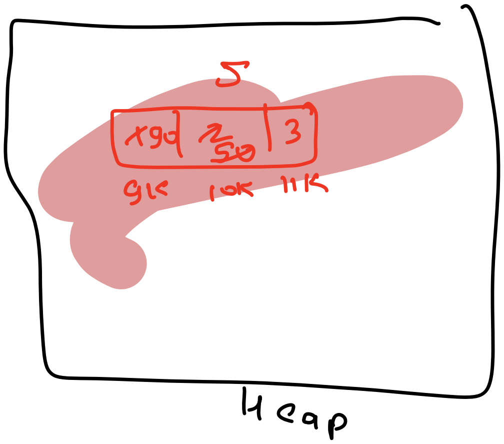
```
main ()
{
int x = 10 ✓
int arr[ ] = { 1, 2, 3 } ✓
    print (arr)        => 9K ✓
    arr = new int [5] ✓
    print (arr)        => 20K ✓
```





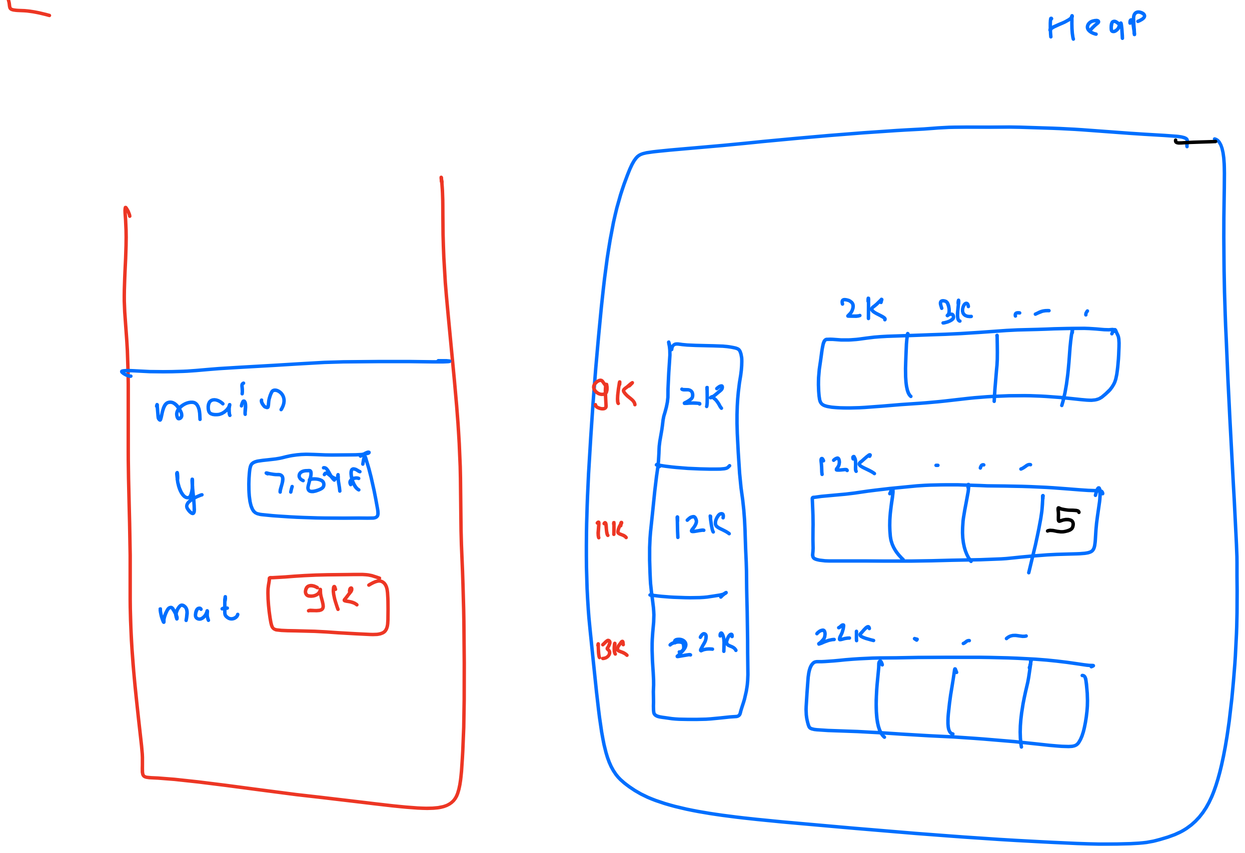
```
void fun ( int[] arr)

        print (arr)          => 9K
        arr [1] = 5


main ()

int x = 10                              ✓
int arr[ ]  = { 1, 2, 3 } ✓
    print (arr)              => 9K

    arr [0] = 90
    arr [1] = 50
     fun (arr)
    print ( arr[1])          => 5
```



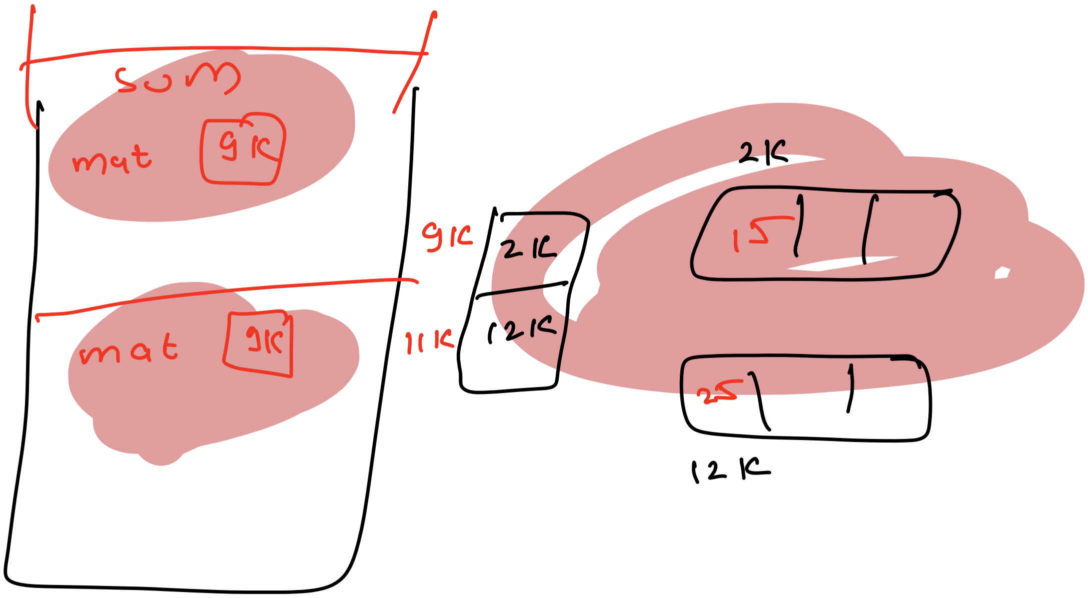


```
mat = [[0]*4 for _ in range(3)]
```

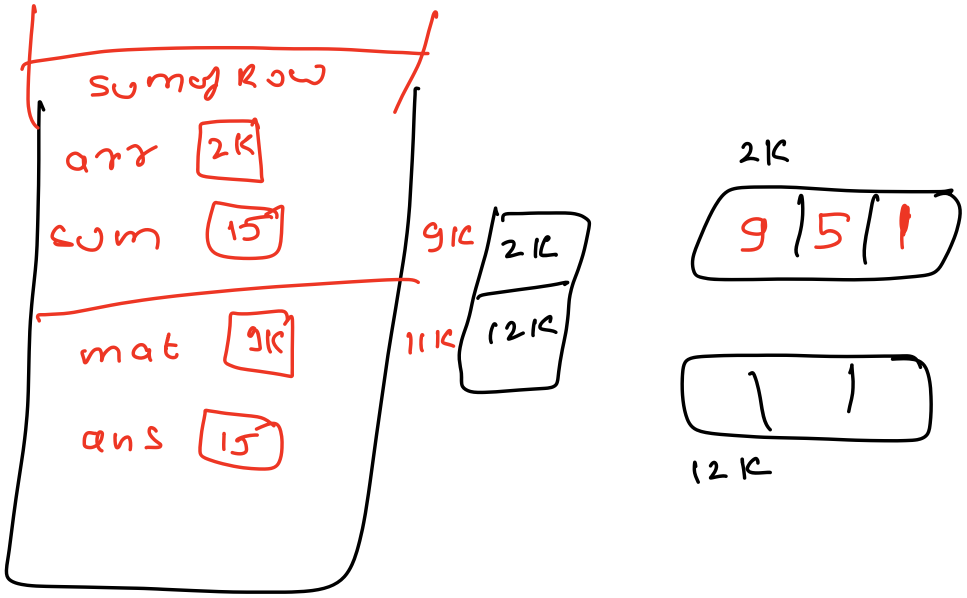
```
main()
{
    float y = 7.84f
    int[][] mat = new int[3][4]
    print(mat) => 9K
    print(mat[1]) => 12K
    print( mat[1][3]) => 5
}
```



```
sum ( int [][] mat)

    print (mat)                              => 9K
    print ( mat [0][0] + mat [1][0])         => 40

main ()

int    mat[][] =    new  int [2][3]

        mat [0][0] = 15
        mat [1][0] = 25

        sum (mat)
```

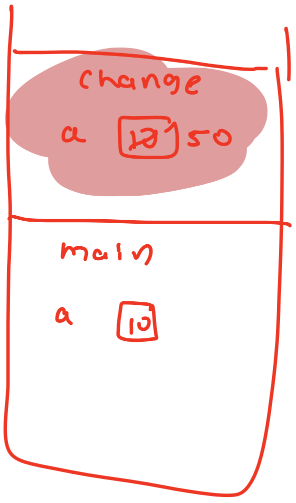


```
SumofRow ( int [] arr)
[
      print ( arr)          =>   2K
      sum = 0
     for ( iterate  array )
     {   sum = sum + arr[i]
     return sum

main ( )
[
int    mat[][] =    new   int [2] [3]

        mat [0] [0] = 9

        mat [0]  [1] = 5
        mat  [0]  [2]  =  1

        int    ans =  SumofRow ( mat [0])

        print (ans)         => 15
```



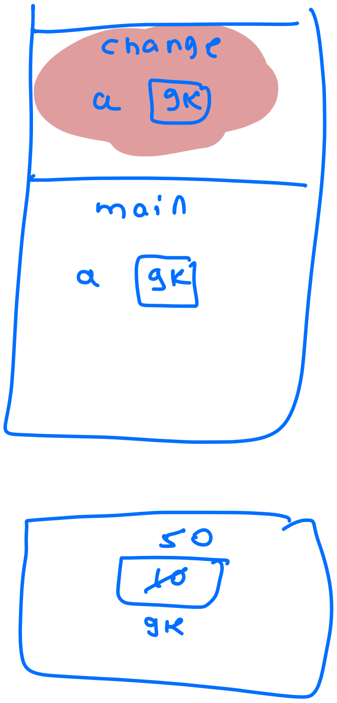
Q1

```
change(a)
{
    a=50
}

main
{
    a = 10
    change(a)
    print(a)      => 10
}
```



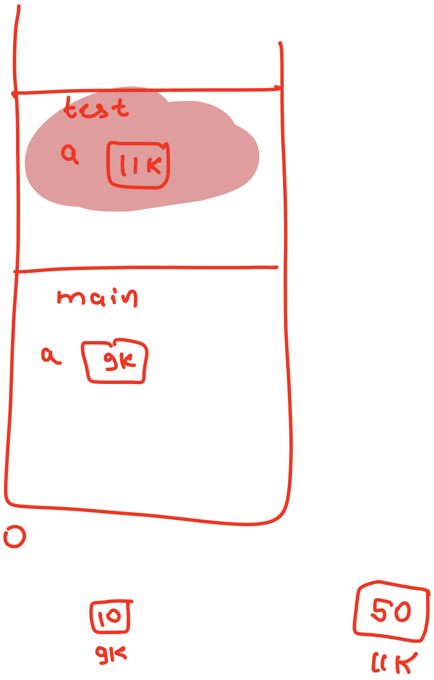
Q

```
void change(a[])
{
        a[0] = 50
}

main
{
    int a[] = {10}   ✓
    change(a)
    print(a[0])   => 50
}
```



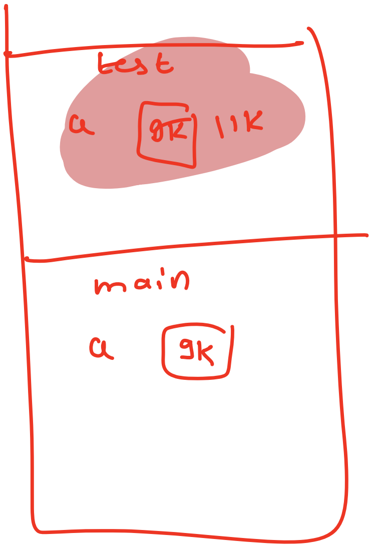
Q

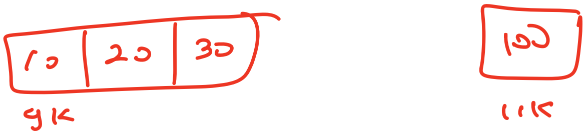
```
test( int a[]) ✓
{
    a = new int[1]
    a[0] = 50
}

main()
{
    int a[] = {10}   ✓
    test(a)
    print(a[0])   => 10
}
```



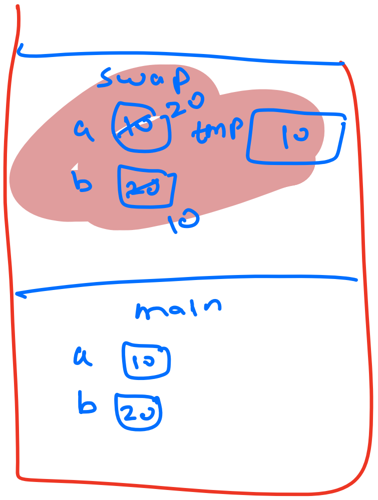
Q

```
test ( int a[]) ✓
    a = new int[1]
    a[0] = 100

main ( )
    int a[] = {10, 20, 30}
    test (a)
    print (a[0])   => 10
```





```
swap(a, b )
    tmp = a
    a = b
    b = tmp

main ( )
    a = 10
    b = 20
    swap(a, b)
    print (a + "  " + b)
```

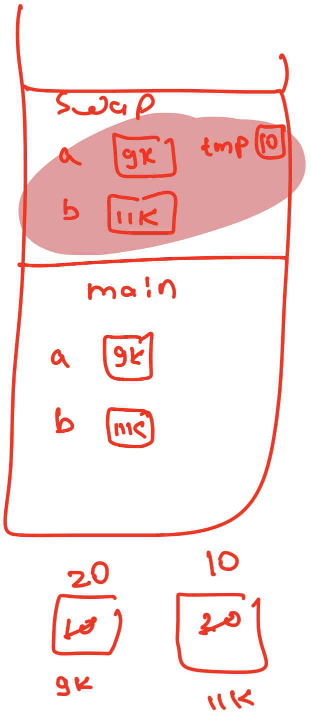


(10 20)

Q

```
swap( int a[], int b[])
[ int tmp = a[0]
    a[0] = b[0]
    b[0] = tmp
]

 main()

[
    int a[] = {10}
    int b[] = {20}
    swap(a,b)
     print (a[0] + "   " b[0])
]
```

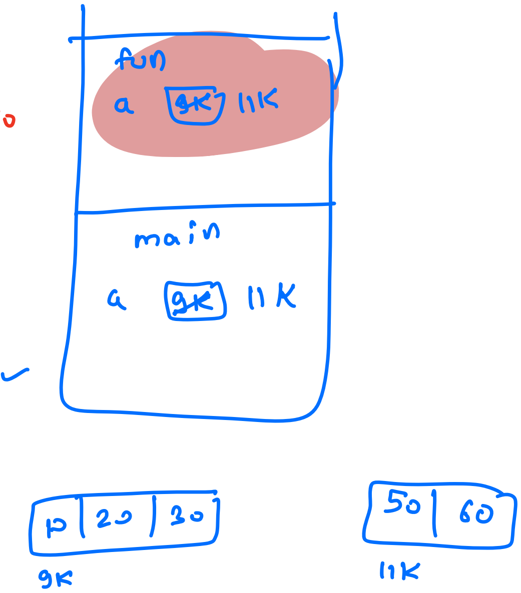
(20   10)



Q.

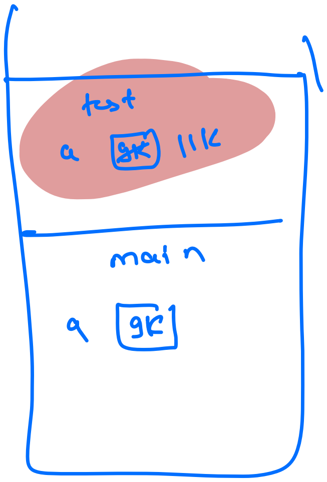
```
fun ( int a[])
[  a = new int[2]
   a[0] = 50      a[1] = 60
   return a
]

main ()

[
 int a[] = {10, 20, 30} ✓

   a = fun(a)

   print (a[0])
]
```

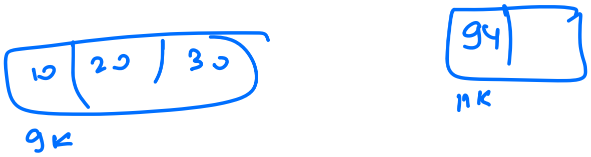
⇓ 50



Q

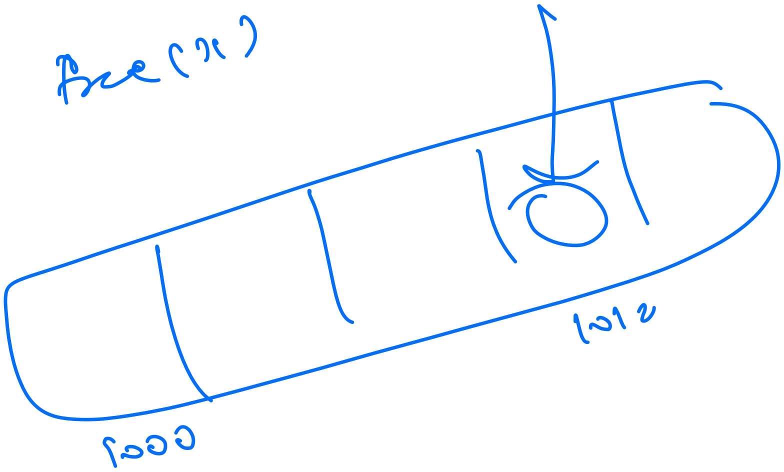
```
      test ( int arr[])
    {
          a = new int [2]
          a[0] = 94
    }
    main ()
  {
    int a[] = {10, 20, 30}
          test(a)
          print ( a[0] )  => 10
  }
```





Sorting

free(x)



arr[3]

1000 + 3(4)

1012