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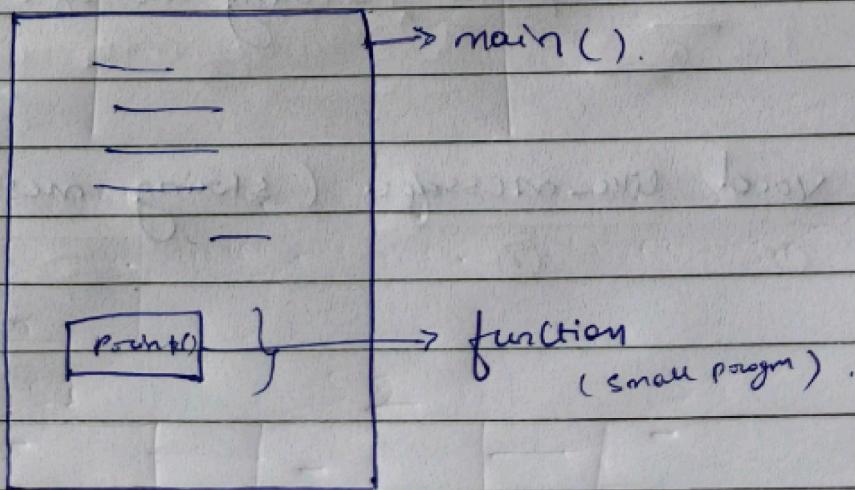
Functions

Q Functions Part - 1

- 1) What is a function?
- 2) Why functions?
- 3) Function syntax
- 4) Difference between
 - > Function Declaration
 - > Function Definition
 - > Function Invocation / call.
- 5) Functions are super important for interviews
- 6) What is main function? How it is used.
- 7) What are command line arguments?
- 8) Why python doesn't have main?

1) What is a function?

It is a reusable block of code designed to perform a specific task.



2) Why functions?

→ Reuse, Time +, money ↓

→ Readability (we can give the name to func?)

3) Function Syntax

< Return Type > function-name (Input arguments)

① x

(it is not compulsory)

②

③ x

(not compulsory)

for python : function-name ()

for java :

void

function-name ()

①

②

Examples :

int get-Sum (int number1, int number2)

①

②

③

void print (String message)

①

②

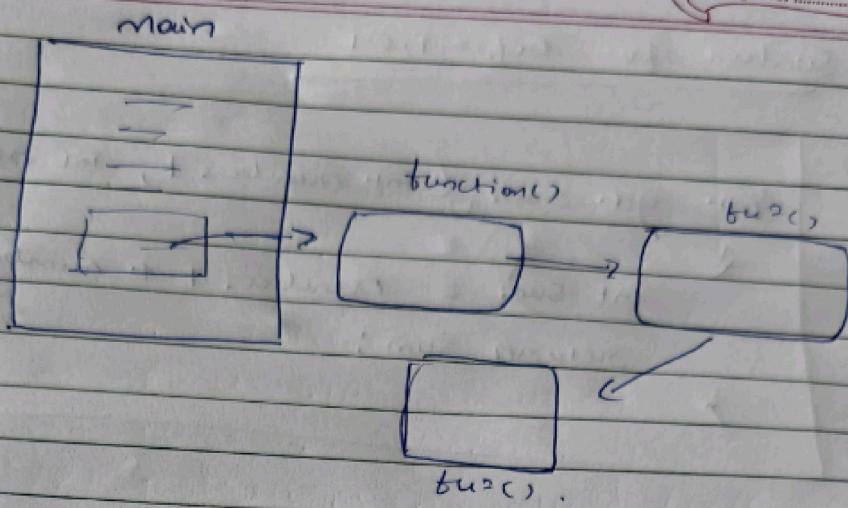
③

void like-message (String message_ED)

①

②

③



4) Difference b/w.

* function Declaration :- (Informing the compiler the function is this & we will write like this).

The person who will write he will do this

* function Definition :- (The actually the code is writing / defining)

This may be others or himself.

* function Invocation / calling (calling the func.).

3's Syntax for Declaration :-

int getSum (int number1, int number2);

* Syntax for Definition

```
int get-sum ( int number 1 , int number 2 )
```

```
    {  
        int sum = number 1 + number 2 ;  
        return sum ;  
    }
```

* Syntax for ~~Invocation~~ / call

```
int get-sum ( int number 1 , int number 2 )
```

```
    {  
        int sum = number 1 + number 2 ;  
        return sum ;  
    }
```

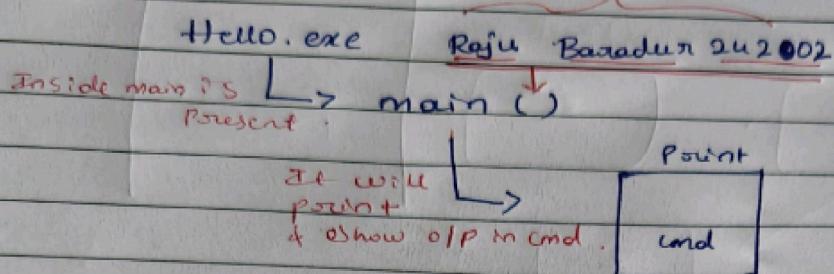
```
answer = get-sum ( 10, 15 );
```

⑥ What is main function ? How it is used.

The O.S will ^{operating system. always} start with the main function

Q) What are command line arguments?

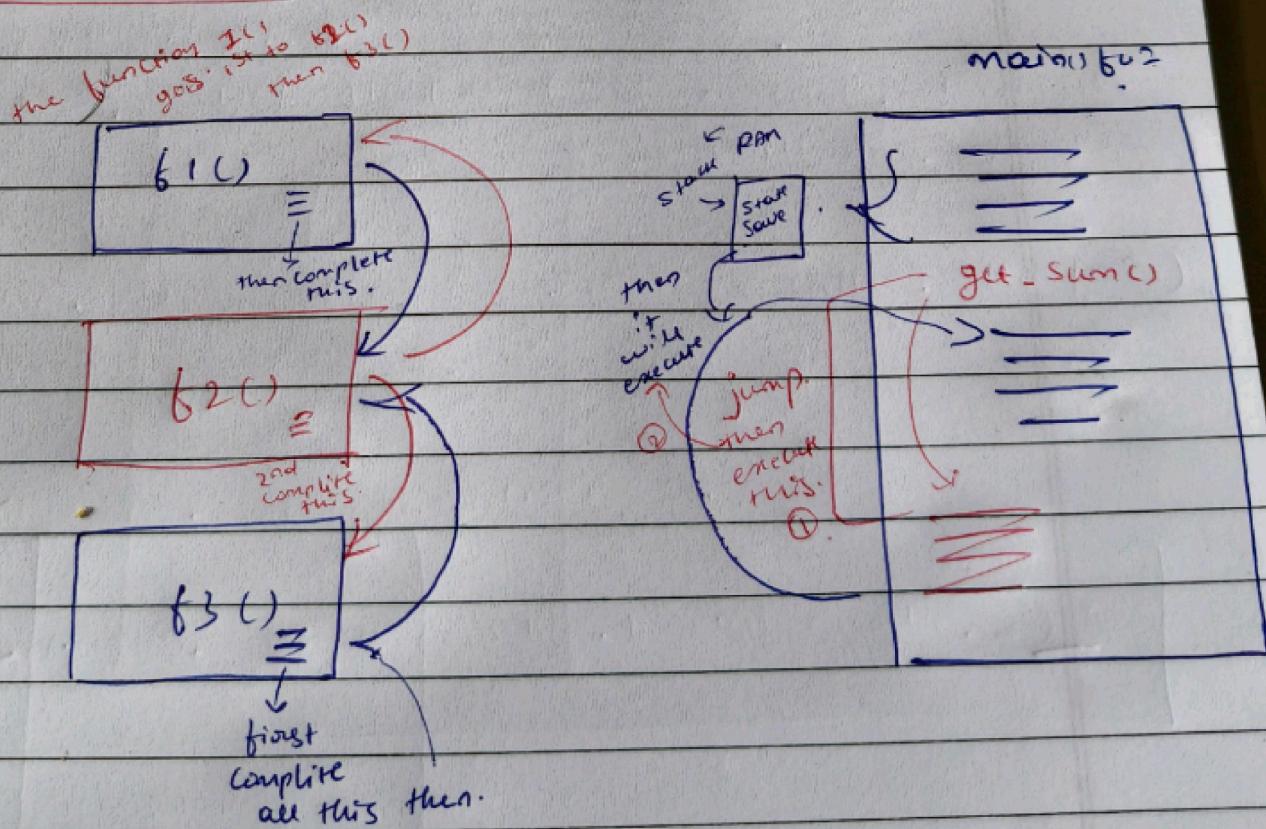
Sol:-



Here we execute Hello.exe in cmd line. After this, we can also write `foo` after that is called as cmd line argument.

Sol:- Hello.exe Raju Baradur 242002

D) for Call Stack for java



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Q Functions part -2

- 1) Writing your first program
- 2) Understanding standard library print function
- 3) Creating your 1st func with no arguments
- 4) Creating funcs with arguments & return types
- 5) Calling a func with function
- 6) Coming up with proper name of func
- 7) How do decide what should be ip & op of the func?
- 8) Deciding proper data types for input & op from func?

Functions In Python

```
massage = "Hello, World!"
```

```
print(massage)
```

```
maths = 90
```

```
science = 85
```

```
english = 88
```

```
total_marks = maths + science + english
```

```
print("Total Marks:", total_marks)
```

```
#Function definition
```

```
def enumadbeda() -> None:
```

```
    # do nothing
```

```
    pass
```

```
# Function invocation/call
```

```
def print_message() -> None:
```

```
    print("Namaskara, World!")
```

```
enumadbeda()
```

```
print_message()
```

```
def nanuFirst() -> None:
```

```
    print("Nanu first function")
```

```
nanuSecond()
```

```
std_age, std_name = print_student_details_simple("John Doe", 20, 3.5)  
print("Returned Age:", std_age)  
print("Returned Name:", std_name)
```

```
#find topper in maths
# who is the topper
#maths
# which grade
# 5th grade
# which school
#RMSA
#name of the std
#input grade, school, subject
#output name of thr student
```

```
def get_topper_name(grade: str, school: str, subject: str) -> str:
    #dummy implementation
    return "Ram"
```

```
student_name = get_topper_name("5th", "RMSA", "maths")
```

```
def get_school_name(school_id: int) -> str:
    return "RMSA"
```

```
def get_boys_girls_count_for_grade_in_school(grade: int, schoolId: int) -> int:
    # actual implementation would query a database or data source
    return 100,100
```

```
boyscount,girls_count = get_boys_girls_count_for_grade_in_school(5, 1)
print("boys count:", boyscount)
print("girls count:",girls_count)
```