Intro to python

Functions and variables

Print text-print("hello, world")

Run file manually- python file.py

Function- actions

Argument-input

Side effect- result of function and arguments

Bug-mistakes

Get input from user-print("What is your name ")

input() or input("Whats your name ")

Return values-user data to be used by programmer

Variables-creation that stores value

Using variable to store user data-print("What is your name ")

A=input() print using variable-print("Hello " + A)

Comments-notes `#new line of code` or `"""`

```
hello world cooments are very useful
"""
```

Pseudocode- coding skeleton/outline

str= string

Parameters- what is allowed in function

End- `print ("Hello", end="")` Changing value of end stops new line from forming

Print str w/quotes-`print('hello "friend"')`

F-string-tells python to format string-print(f"hello, {A}")- prints hello jesus

A.title()-capitilize first letter

INT=number

%=returns remainder

```
int = 4
print(22%int)
```

Calculations using user input

```
def sum(a, b):
    return (a + b)
a = int(input('Enter 1st number: '))
b = int(input('Enter 2nd number: '))
print(f'Sum of {a} and {b} is {a+b}')
```

FLOAT= number can be decimal or whole

Divide using user input-a= int(input("Number 1 "))

```
b= int(input('Number 2 '))
print(f'{a/b}')
```

DEF=define a function

```
#Create Function that displays name
def Hello(to="World"):
    print("Hello", to)
Hello()
name=input("What is your name ")
Hello(name)
```

Return=Returns value #Use when using multiple functions

```
def main():
    x=int(input("Please chose a number: "))
```

```
    print(mult(x))

#n is placeholder for x

def mult(n):

    return n*6

main()

#Parameter and def exersise

def Hello(to="Bitch"):

    print("Hello", to)

Hello()

name=input("What is your name: ")

Hello(name)
```

CONDITIONALS

If-

```
x=int(input("Whats x: "))
y=int(input("Whats y:"))
if x < y:
    print("X is less than y")

x=int(input("Whats x: "))
y=int(input("Whats y:"))
# == is used to distingush matmatical equality
if x == y:
    print("X is equal to y")
```

ELIF

```
x=int(input("Whats x: "))
y=int(input("Whats y:"))
if x == y:
    print("X is equal to y")
elif x < y:
    print("X is less than Y")
elif x > y:
    print("X is greater than Y")
```

ELSE

```
x=int(input("Whats x: "))
y=int(input("Whats y:"))
if x == y:
    print("X is equal to y")
elif x < y:
    print("X is less than Y")
else:
    print("X is greater than Y")
```

OR

```
x=int(input("Whats x: "))
y=int(input("Whats y:"))
if x > y or x < y:
    print("x is not equal to y")
else:
    print("x is equal to y")
```

AND

```
x=int(input("Whats x: "))
if x >= 90 and x < 100:
    print("The grade is and A ")
else:
    print("The grade is not an A")
```

Combing operators

```
x=int(input("Whats x: "))
if 90 <= x < 100:
    print("The grade is and A ")
else:
    print("The grade is not an A")
```

MODULO

```
x=int(input("Whats x: "))
if x%2==0:
    print("X is even ")
else:
    print(x%2)
    print("X is odd")
```

BOOLEAN

```
def main():
    x=int(input("What is x: "))
    if mod(x)==True:
        print("Even")
    else:
        print("Odd")
def mod(n):
    return True if n%2==0 else False
main()
```

CASE

```
name = input("Enter Team name:")
match name:
    case "Arsenal" | "Liverpool" | "Everton":
        print ("Premeir League")
    case "Munich" | "Dortmund"| "Berlin":
        print("Bundesliga")
    case "Juventus" | "Milan" | "Empoli":
        print(" Seria A")
    case "PSG"|"Lens"|"Monaco":
        print("Ligue 1")
    case "Madrid"|"Barcelona"|"Bilbao":
        print("La Liga")
    case _:
        print("Not Found")
```

Conditionals problem #1

```
text= input("Enter the number of life")
#convert to lower case, remove hyphen, no space either side
name = text.replace("-"," ").lower().strip()
#Use elif to distingush string else always will print out wrong
answer
#if string matches print response else print default.
if name == "42":
    print("That is the number of life")
elif name =="forty two":
    print("That is the number of life")
elif name =="Forty two":
    print("That is the number of life")
else:
    print("That is not the number of life")
```

Conditionals problem #2

```
text=input("Insert Greating")
name=text.lower().strip()
#check if str starts with certain charaters
if name.startswith('hello'):
    print("0")
elif name.startswith("h"):
    print("20")
else:
    print("100")
```

Conditionals problem #3

```
text=input("Insert media type")
name=text.lower().strip()
#check if str contains substring
if 'gif' in name:
    print("Image/gif")
elif 'jpg' in name:
    print("Image/jpeg")
elif 'jpeg' in name:
    print("Image/jpeg")
elif 'png' in name:
    print("Image/png")
elif 'pdf' in name:
    print("application/pdf")
elif 'txt' in name:
    print("text/plain")
elif 'zip' in name:
    print("application/zip")
else:
    print("application/octet-stream")
```

Conditionals problem #4

#Split function

```
def main():
    text = input("Expression: ")
    x, y, z = text.split(" ")
    x = float(x)
    z = float(z)

    if y == "+":
        print(add(x, z))
    elif y == "-":
        print(sub(x,z))
    elif y == "*":
        print(mult(x,z))
```

```
    elif y == "/":
        print(div(x,z)

def add(x, z):
    return x + z
def sub(x,z):
    return x - z
def mult(x,z):
    return round(x * z)
def div(x,z):
    return round(x / z)

 main()
```

Conditionals problem #5

```
#Splitting time
def main():
    time = input("What time is it? ")
    hours, minutes = time.split(":")
#Parameter of split is separation method
    timeCheck = float(convert(hours, minutes))

    if timeCheck >= 7.0 and timeCheck <= 8.0:
        print("breakfast time")
    elif timeCheck >= 12.0 and timeCheck <= 13.0:
        print("lunch time")
    elif timeCheck >= 18.0 and timeCheck <= 19.0:
        print("dinner time")

#Add , 2 to convert into decimal
def convert(hours, minutes):
    hours = float(hours)
    minutes = round(float(minutes) / 60, 2)
    return float(hours) + float(minutes)

main()
```

Exercise #1

```
def main():
    numb= input("Enter complex expression:")
    # space after comma acts as seprater
    x, y, z=numb.split(" ")
    x=float(x)
    z=float(x)
```

```
    if y == "%":
        print(mod(x,z))
    elif y=="*":
        print(square(x,z))
    else:
        print("Enter valid Expression")


def square(x,z):
    return x*z
def mod(x,z):
    return x%z

main()
```