

```
#selection (if statement)
if answer == "Yes" or answer == "YES":
    print("Correct")
elif answer == "No" or answer == "NO":
    print("Wrong")
else:
    print("Error")
```

```
#iteration for loop (count controlled)
for i in range(0,10):#not including 10
    print(i)
#prints 0, 1, ... , 9
```

```
#take input from a user
name = input("Enter your name:")
```

```
#iteration while loop (condition controlled)
answer = ""
while answer != "Goat":
    answer = input("Who is GCST?")
#keep asking ^ till Goat is entered
```

```
# Function to add two numbers
def add(a, b):
    return a + b

result = add(5, 3)
print(f"Sum is {result}") #f-string
#will print 5+3 = 8
```

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```
#casting - converting to another data type
str(3) #returns "3"
int("3") # return 3
float("3.14") #returns 3.14
bool("True") #returns True
```

```
result = 10 + 30
result = 40 - 10
result = 50 * 5
result = 16 / 4
result = 25 % 2 #mod (returns remainder)
result = 5 ** 3 #exponent (5^3 = 125)
result = 11 // 2 #div (returns whole when divided) 5
```

```
# Open a file in write mode ('w'),
# will create the file if it doesn't exist
with open("example.txt", "w") as file:
    file.write("Hello, world!")

# append mode to add content without overwriting
with open("example.txt", "a") as file:
    file.write("Appending this new line.")

# read mode and print its content
with open("example.txt", "r") as file:
    content = file.read()
    print(content)
#prints the entire file content
```

```
# (lists)
fruits = ["Apple", "Banana", "Cherry"]
print(fruits[0]) # Apple
fruits.append("Orange")# Adding an item
fruits.remove("Orange")# Removing an item

for i in range(len(fruits)):#len() = 3
    print(fruits[i])
#prints apple banana cherry
```

```
# strings
subject = "ComputerScience"
z = "is Good"
len(subject) #15
subject.lower() #computerscience
subject.upper() #COMPUTERSCIENCE
subject[8:15] #Science
subject[-3:] #nce last 3
subject[:3] #Com first 3

subject + z #ComputerScienceis Good
```

```
# a random number between 1 and 10
import random
number = random.randint(1, 10)#including 10
print(f"Random Number: {number}")
```