Control Flow

In [1]:
```
# simple if condition
a = int(input())
b = int(input())
if a>b:
    print(a)
    print("I am inside the if condition")
print("I am outside the if condition")
```

```
6
7
I am outside the if condition
```

In [2]:
```
a = int(input("Enter your 1st no:"))
b = int(input("Enter your 2nd no:"))
if a>b:
    print(a)
if b>a:
    print(b)
```

```
Enter your 1st no:88
Enter your 2nd no:67
88
```

In [4]:
```
# use of else clause
a = int(input("Enter your 1st no:"))
b = int(input("Enter your 2nd no:"))
if a>b:
    print(a)
    print("we are inside if statement")
else:
    print(b)
    print("we are inside else statement")
print("Hello")
```

```
Enter your 1st no:45
Enter your 2nd no:56
56
we are inside else statement
Hello
```

In [5]:
```
# use of elif clause
a= float(input("Enter your 1st number"))
b = float(input("Enter your 2nd number"))

if (a>b):
    print("a is greater than b")
elif (a==b):
        print("a and b are equal")
else:
    print("b is greater than a")
```

```
Enter your 1st number89
Enter your 2nd number35
a is greater than b
```

In [ ]:
```
"""  Take marks from user.
>=85 (a+)
<85 >=80 (a)
<80 >=75 (b+)
<75 >=70 (b)
Below Average
"""

a = int(input("Enter your marks: "))
if a>=85:
    print("A+ Grade")
elif a < 85 and a >= 80:
    print("A Grade")
elif a < 80 and a >= 75:
    print("B+ Grade")
elif a < 75 and a >= 70:
    print("B Grade")
else:
    print("Below Average")
```

In [2]:
```
"""Enter his age
1- 6 yrs (child)
>= 6 <12 ()
>= 12 <20 (tennager)
>=20 <35 (Adult)
Grown up
"""
# age = int(input("Enter your age: "))
# if age<6 and age >=1:
#     print("child")
# elif age < 12 and age >= 6:
#     pass
# elif age < 20 and age >= 12:
#     print("Teenager")
# elif age < 35 and age >= 20:
#     print("Adult")
# else:
#     print("Grown up")

# practice elif statment
"""
take any input from user
check the type with if:
if type == int -> int
float
complex
bool
string

"Unknown Variable"
"""

# Sol1:
# user_input = input("Enter something: ")

# if int(user_input) == int:
#     print("Input is an integer.")
# elif float(user_input) == float:
#     print("Input is a float.")
# elif str(user_input) == str:
#     print("Input is a string.")
# elif type(user_input) == bool:
#     print("Input is boolean")
# else:
#     print("Input is of unknown type.")

# Sol2:

# ••••••if (isinstance(user_input, int)) == True:
#     print("Input is int")
# elif (isinstance(user_input, str)) == True:
#     print("Input is string")
# elif (isinstance(user_input, bool)) == True:
#     print("Input is boolean")
# elif (isinstance(user_input, complex)) == True:
#     print("Input is complex")
# else :
#     print("Unknown type")

user_input = input("Enter any value: ")
```

```
try:
    user_input = int(user_input)
    print("The type is integer.")
except ValueError:
    try:
        user_input = float(user_input)
        print("The type is float.")
    except ValueError:
        if user_input.lower() == "true" or user_input.lower() == "fals
            user_input = bool(user_input)
            print("The type is boolean.")
        elif "i" in user_input or "j" in user_input:

            try:
                user_input = complex(user_input)
                print("The type is complex.")
            except ValueError:

                print("Invalid complex number format.")
        elif user_input.isalpha():
            print("The type is alphabetic string.")
        elif user_input.isalnum():
            print("The type is alphanumeric string.")
        else:
            print("Unknown Variable")
```

```
Enter any value: ink
Invalid complex number format.
```

In [ ]:
```
# nested if

x = int(input("Enter a number: "))

if x>10:
    print("Your number is greater than 10,")
    if x>20:
        print("and also above 20")
    else:
        print("but not above 20")
else:
    print("your number is less than 10")
```

In [27]:
```
x = int(input("Enter a number: "))

if x>10:
    print("Your number is greater than 10")
    print("Inside the top if condition")
    if x>20:
        print("and also above 20")
        print("we are inside the nested if condition")
        if x>30:
            print("above 30")
        else:
            print("less than 30")
    else:
        print("but not above 20")
        print("we are inside the nested else condition")
else:
    print("your number is less than 10")
    print("we are inside the top else condition ")
print("We are outside of if")
```

```
Enter a number: 45
Your number is greater than 10
Inside the top if condition
and also above 20
we are inside the nested if condition
above 30
We are outside of if
```

In [28]:
```
#Checking No is even or odd by extracting numbers before decimal
x = float(input("Enter a real no: "))
y = round(x)
if x>0:
    if y>x:
        intPortion = y-1
    else:
        intPortion = y
else:
    if y<x:
        intPortion = y+1
    else:
        intPortion = y

if intPortion%2 == 0:
    print("Even")
else:
    print("odd")
```

```
Enter a real no: 56.78
Even
```

In [31]:
```
x = float(input("Enter a real no: "))
y = round(x)
print(y)
```

```
Enter a real no: 44.23
44
```

In [ ]: