

Python Study Notes (Roman Urdu)

Statements, Branching aur Looping

Python Statement Kya Hota Hai

Statement Python ka wo instruction hota hai jo interpreter execute karta hai. Python program asal mein statements ka collection hota hai jo line by line run hotay hain.

Practical Samajh: Jab aap Python ko koi kaam karne ka hukam dete ho (print karna, decision lena, loop chalana), wo sab statements hotay hain.

Example:

```
print("Hello")
x = 5
```

Input Statement

Definition

Input statement user se data lene ke liye use hota hai jab program run ho raha hota hai.

Practical Explanation

- User se naam, age ya number lena ho to input use hota hai
- `input()` hamesha string return karta hai
- Number ke liye conversion zaroori hoti hai

Examples:

```
name = input("Apna naam likho: ")
age = int(input("Apni age likho: "))
price = float(input("Product ki price likho: "))
city = input("City ka naam likho: ")
print("Aap", city, "mein rehtay ho")
```

Output Statement

Definition

Output statement program ka result screen par dikhata hai.

Practical Explanation

Jab aap chahte ho ke message, calculation ya result screen par aaye, to `print()` use hota hai.

Practice Examples

```
print("Hello Python")
print(10 + 20)
name = "Ali"
print("Naam:", name)
age = 20
print("Age:", age)
print("A", "B", "C")
print("Python\nJava")
print("Apple", "Banana", sep="-")
marks = 85
print("Marks =", marks)
print("Result: Pass")
print("Program khatam ho gaya")
```

Branching (Conditional Statements)

Definition

Branching statements decision making ke liye use hotay hain.

Practical Explanation

Real life jaise:

- agar marks 50 se zyada hon to pass
- warna fail

Python bhi isi tarah decision leta hai using conditions.

If Statement

Definition

if statement tab execute hota hai jab condition true ho.

Practice Examples

```
age = 18
if age >= 18:
    print("Aap eligible ho")

marks = 70
if marks >= 50:
    print("Pass")

num = 4
if num % 2 == 0:
    print("Even number")

temp = 35
if temp > 30:
    print("Bohat garmi hai")

balance = 1000
if balance >= 500:
    print("Withdraw ho sakta hai")

status = "active"
if status == "active":
    print("Account active hai")

speed = 60
if speed <= 80:
    print("Speed safe hai")

x = 0
if x == 0:
    print("Zero hai")

logged_in = True
if logged_in:
```

```
    print("Welcome user")

day = "Monday"
if day == "Monday":
    print("Aaj class hai")
```

If-Else Statement

Definition

If-else tab use hota hai jab do clear outcomes hon.

Practice Examples

```
age = 16
if age >= 18:
    print("Adult")
else:
    print("Minor")

marks = 40
if marks >= 50:
    print("Pass")
else:
    print("Fail")

num = 7
if num % 2 == 0:
    print("Even")
else:
    print("Odd")

password = "1234"
if password == "1234":
    print("Login successful")
else:
    print("Wrong password")

balance = 100
if balance >= 200:
    print("Shopping possible")
```

```
else:
    print("Paise kam hain")

rain = False
if rain:
    print("Chhata le jao")
else:
    print("Chhata zaroori nahi")

light = "red"
if light == "green":
    print("Go")
else:
    print("Stop")

num = 0
if num == 0:
    print("Zero")
else:
    print("Non-zero")

score = 90
if score >= 50:
    print("Passed")
else:
    print("Failed")

time = 22
if time < 18:
    print("Day time")
else:
    print("Night")
```

If-Elif-Else Statement

Definition

If-elif-else multiple conditions check karne ke liye use hota hai.

Practice Examples

```
marks = 85
if marks >= 90:
    print("A grade")
elif marks >= 80:
    print("B grade")
else:
    print("C grade")

num = -5
if num > 0:
    print("Positive")
elif num < 0:
    print("Negative")
else:
    print("Zero")

age = 12
if age < 13:
    print("Child")
elif age < 18:
    print("Teenager")
else:
    print("Adult")

temp = 15
if temp > 30:
    print("Garmi")
elif temp > 20:
    print("Mausam theek")
else:
    print("Thand")

day = 1
if day == 1:
    print("Monday")
elif day == 2:
    print("Tuesday")
else:
    print("Koi aur din")

score = 45
```

```
if score >= 80:
    print("Excellent")
elif score >= 50:
    print("Pass")
else:
    print("Fail")

time = 14
if time < 12:
    print("Morning")
elif time < 18:
    print("Afternoon")
else:
    print("Evening")

rating = 4
if rating == 5:
    print("Very good")
elif rating == 4:
    print("Good")
else:
    print("Average")

signal = "yellow"
if signal == "green":
    print("Go")
elif signal == "yellow":
    print("Wait")
else:
    print("Stop")

speed = 90
if speed < 60:
    print("Slow")
elif speed <= 80:
    print("Normal")
else:
    print("Overspeed")
```

Looping Statements

Definition

Looping statements aik hi code ko bar bar repeat karne ke liye use hotay hain.

For Loop

Definition

For loop tab use hota hai jab humein pata ho kitni dafa loop chalana hai.

Examples

```
for i in range(5):
    print(i)

for i in range(1, 6):
    print(i)

for ch in "Python":
    print(ch)

for num in [10, 20, 30]:
    print(num)

for i in range(2, 11, 2):
    print(i)

total = 0
for i in range(1, 6):
    total += i
print(total)

for i in range(3):
    print("Hello")

for i in range(1, 4):
    print(i * i)

for i in range(10, 0, -1):
    print(i)
```



```
for fruit in ["apple", "banana", "mango"]:  
    print(fruit)
```

While Loop

Definition

While loop tab tak chalta rehta hai jab tak condition true rahe.

Examples

```
i = 1  
while i <= 5:  
    print(i)  
    i += 1  
  
i = 5  
while i > 0:  
    print(i)  
    i -= 1  
  
count = 0  
while count < 3:  
    print("Hello")  
    count += 1  
  
num = 10  
while num > 0:  
    print(num)  
    num -= 2  
  
x = 1  
while x <= 10:  
    print(x * 2)  
    x += 1  
  
sum = 0  
i = 1  
while i <= 5:  
    sum += i
```

```
        i += 1
print(sum)

password = ""
while password != "1234":
    password = input("Password likho: ")

x = 10
while x >= 1:
    print(x)
    x -= 1

num = 1
while num <= 10:
    if num % 2 == 0:
        print(num)
    num += 1

i = 1
while i <= 3:
    print("Python")
    i += 1
```

Exam Yaad Rakhne Ke Points

- Statement ka matlab instruction hota hai
- Branching decision lene ke liye hoti hai
- Looping repetition ke liye use hoti hai
- For loop fixed times ke liye hota hai
- While loop condition based hota hai