quiz-2–ASTHAGINA-DELIA-PUTRI-.R

ASTHAGINA DELIA P

2024-09-12

#if-else  
angka = 20  
if (angka > 10) {  
 print("angka lebih besar dari 10")  
} else {  
 print("angka lebih kecil atau sama dengan 10")  
}

## [1] "angka lebih besar dari 10"

#nested-if  
x = 52   
if (x>20) {  
 print("Above twenty")  
 if (x>30) {  
 print("and also above 20!")  
 } else {  
 print("but not above 20.")  
 }  
} else {  
 print("below 10.")  
}

## [1] "Above twenty"  
## [1] "and also above 20!"

#if-AND  
a = 100  
b = 77  
c = 200  
if ( a > b & c > a) {  
 print("both conditions are true")  
}

## [1] "both conditions are true"

#if-OR  
a = 100  
b = 77  
c = 200  
if ( a > b | c > a) {  
 print("at least one of the conditions is true")  
}

## [1] "at least one of the conditions is true"

#else-if  
nilai = 77  
if (nilai >= 90) {  
 print("nilai a")  
} else if (nilai >= 77) {  
 print("nilai b")  
} else {  
 print("nilai c")  
}

## [1] "nilai b"

#while  
count = 11  
while(count <= 15) {  
 print(count)  
 count = count + 1  
}

## [1] 11  
## [1] 12  
## [1] 13  
## [1] 14  
## [1] 15

#while-break  
i = 2  
while (i < 6) {  
 print(i)  
 i = i + 1  
 if (i==5) {  
 break  
 }  
}

## [1] 2  
## [1] 3  
## [1] 4

#while-next  
i = 1  
while (i < 7) {  
 i = i + 1  
 if (i==4) {  
 next  
 }  
 print(i)  
}

## [1] 2  
## [1] 3  
## [1] 5  
## [1] 6  
## [1] 7

#if-else + while loops  
dice = 0  
while ( dice <= 5) {  
 if (dice < 5) {  
 print("No yahtzee")  
} else {  
 print("yahtzee!")  
}  
dice = dice + 1  
}

## [1] "No yahtzee"  
## [1] "No yahtzee"  
## [1] "No yahtzee"  
## [1] "No yahtzee"  
## [1] "No yahtzee"  
## [1] "yahtzee!"

#for loop  
for (i in 11:15) {  
 print(i)  
}

## [1] 11  
## [1] 12  
## [1] 13  
## [1] 14  
## [1] 15

fruits = list("grape", "strawberry", "pear")  
for (x in fruits) {  
 print(x)  
}

## [1] "grape"  
## [1] "strawberry"  
## [1] "pear"

dice = c(75, 76, 77, 78, 79, 80)  
for (x in dice) {  
 print(x)  
}

## [1] 75  
## [1] 76  
## [1] 77  
## [1] 78  
## [1] 79  
## [1] 80

#nested-for  
adj = list("blue", "big", "tasty")  
fruits = list("grape", "strawberry", "pear")  
 for (x in adj) {  
 for (y in fruits) {  
 print(paste(x, y))  
 }  
 }

## [1] "blue grape"  
## [1] "blue strawberry"  
## [1] "blue pear"  
## [1] "big grape"  
## [1] "big strawberry"  
## [1] "big pear"  
## [1] "tasty grape"  
## [1] "tasty strawberry"  
## [1] "tasty pear"

#for-break  
fruits = list("grape", "strawberry", "pear")  
 for (x in fruits) {  
 if ( x == "pear") {  
 }  
 print(x)  
 }

## [1] "grape"  
## [1] "strawberry"  
## [1] "pear"

#for-next  
fruits = list("grape", "strawberry", "pear")  
for (x in fruits) {  
 if ( x == "strawberry") {  
 next  
 }  
 print(x)  
}

## [1] "grape"  
## [1] "pear"

#if-else + for loops  
dice = 2:7  
for(x in dice) {  
 if ( x==7) {  
 print(paste("the dice number is", x, "yahtzee!"))  
 } else {  
 print(paste("the dice number is", x, "not yahtzee"))  
 }  
}

## [1] "the dice number is 2 not yahtzee"  
## [1] "the dice number is 3 not yahtzee"  
## [1] "the dice number is 4 not yahtzee"  
## [1] "the dice number is 5 not yahtzee"  
## [1] "the dice number is 6 not yahtzee"  
## [1] "the dice number is 7 yahtzee!"

#fungsi logika  
#all  
all(c(TRUE, TRUE, TRUE))

## [1] TRUE

all(c(FALSE, FALSE, FALSE))

## [1] FALSE

#is.na  
is.na(c(1, 2, NA))

## [1] FALSE FALSE TRUE

#any  
any(c(FALSE, TRUE, FALSE))

## [1] TRUE

#ifelse  
angka = c(25, 30, 35)  
hasil = ifelse(angka > 30, "lebih besar", "lebih kecil atau sama")  
print(hasil)

## [1] "lebih kecil atau sama" "lebih kecil atau sama" "lebih besar"

#fungsi kontrol  
#return  
kuadrat = function(x) {  
 hasil = x^2  
 return(hasil)  
 print("ini tidak akan dicetak karena return sudah dipanggil.")  
}  
  
print(kuadrat(5))

## [1] 25

#stop  
cekbilangan = function(x) {  
 if (x<0) {  
 stop("error: bilangan negatif tifak diperbolehkan")  
 } else {  
 print("bilangan valid")  
 }  
}  
  
cekbilangan(5)

## [1] "bilangan valid"

#warning  
ceknilai = function(x) {  
 if (x==0) {  
 warning("peringatan: nilai sama dengan nol.")  
 }  
 print("program tetap berjalan meskipun ada peringatan.")  
}  
  
ceknilai(0)

## Warning in ceknilai(0): peringatan: nilai sama dengan nol.

## [1] "program tetap berjalan meskipun ada peringatan."

ceknilai(4)

## [1] "program tetap berjalan meskipun ada peringatan."

#try  
result = try(log(4), silent = TRUE)  
if (inherits(result, "try-error")) {  
 print("terjadi kesalahan, tidak bisa menghitung log dari angka negatif")  
} else {  
 print(result)  
}

## [1] 1.386294

#tryCatch  
hasil = tryCatch({  
 log(-5)  
},  
error = function(e) {  
 print("terjadi kesalahan: log dari bilangan negatif tidak mungkin.")  
},  
warning = function(w) {  
 print("peringatan: ada yang tidak benar.")  
},  
finally = {  
 print("eksekusi trycatch selesai.")  
})

## [1] "peringatan: ada yang tidak benar."  
## [1] "eksekusi trycatch selesai."