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**Computer Science – Kemanggisan**

**Kasus**

1. **a. IPO Table**

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| panjang  lebar | 1. luas = panjang \* lebar 2. luasFurniture = luas \* 0.6 3. sisa = luas - luasFurniture | Display luasFurniture  Display sisa |

**b. Pseudocode**

START

1. Read panjang
2. Read lebar
3. Declare Integer luas = panjang \* lebar
4. Declare Integer luasFurniture = luas \* 0.6
5. Declare Integer sisa = luas – luasFurniture
6. Print luasFurniture
7. Print sisa

END

**c. Hand Tracing**

|  |  |  |
| --- | --- | --- |
| **Data Set** | **panjang** | **lebar** |
| Data 1 | 10 | 10 |
| Data 2 | 20 | 20 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Statements Number | Variables | | | | |
| Data 1 | panjang | lebar | luas | luasFurniture | sisa |
| 1 | 10 |  |  |  |  |
| 2 |  | 10 |  |  |  |
| 3 |  |  | 100 |  |  |
| 4 |  |  |  | 60 |  |
| 5 |  |  |  |  | 40 |
| 6 |  |  |  | Displayed |  |
| 7 |  |  |  |  | Displayed |
| Data 2 |  |  |  |  |  |
| 1 | 20 |  |  |  |  |
| 2 |  | 20 |  |  |  |
| 3 |  |  | 400 |  |  |
| 4 |  |  |  | 240 |  |
| 5 |  |  |  |  | 160 |
| 6 |  |  |  | Displayed |  |
| 7 |  |  |  |  | Displayed |

1. **a. Pseudocode**

START

1. Read num
2. IF(num == 9999)
3. END
4. IF(num % 2 == 0)
5. Print “Deretan Angka = “, num, num+2, num+4, num+6, num+8
6. ELSE
7. Print “Angka”, num “bukan bilangan ganjil”
8. END IF

END

**b. Flowchart**

Diagram

Description automatically generated

1. **a. IPO Table**

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| firstName  firstAddress  secondName  secondAddress  weight  payType | 1. IF(weight <= 2) 2. weight = 2 3. END IF 4. DO 5. Read payType 6. WHILE(payType != A && payType != B && payType != C && payType != D && payType != E) 7. Declare Integer discount 8. Declare Integer price = weight \* 9000 9. price = price – (price \* discount) | Display discount  Display price |

**b. Pseudocode**

START

1. Module main()
2. Read firstName
3. Read firstAddress
4. Read secondName
5. Read secondAddress
6. Read weight
7. IF(weight <= 2)
8. Set weight = 2
9. END IF
10. Declare Integer price = weight \* 9000
11. DO Read payType
12. WHILE(payType != ‘A’ && payType != ‘B’ && payType != ‘C’ && payType != ‘D’ && payType != ‘E’)
13. IF(payType == ‘A’)
14. Declare Integer discount = 0
15. ELSE IF(payType == ‘B’)
16. Declare Integer discount = 0.025
17. ELSE IF(payType == ‘C’)
18. Declare Integer discount = 0.05
19. ELSE IF(payType == ‘D’)
20. Declare Integer discount = 0.06
21. ELSE IF(payType == ‘E’)
22. Declare Integer discount = 0.07
23. END IF
24. price = funcDisc(price, discount)
25. Display discount
26. Display price
27. End Module
28. Function Integer funcDisc(Integer num1, Integer num2)
29. Declare Integer result
30. Set result = num1 – (num1 \* num2)
31. Return result
32. End Function

END

1. **a. IPO Table**

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| Tanggal  Nama\_Pengunjung  Jam\_Masuk  Suhu\_Tubuh | 1. Declare String Tanggal, Nama\_Pengunjung, Jam\_Masuk, Status 2. Declare Real Suhu\_Tubuh 3. Declare Integer Nomor, Halaman, Baris, Total\_Valid, Total\_Invalid, Total\_Pengunjung, GrandTotal\_Valid, GrandTotal\_Invalid, GrandTotal\_Pengunjung 4. Open Pengunjung.dat file 5. DO until EOF   Read Tanggal, Nama\_Pengunjung, Jam\_Masuk, Suhu\_Tubuh lists from Pengunjung.dat file   1. Call Header() 2. Call dataLaporan() 3. Call subTotal() 4. Call grandTotal() 5. END DO 6. Close Pengunjung.dat file | Tanggal  Nama\_Pengunjung  Jam\_Masuk  Suhu\_Tubuh  Status  Total\_Valid  Total\_Invalid  Total\_Pengunjung  GrandTotal\_Valid  GrandTotal\_Invalid  GrandTotal\_Pengunjung |

**b. Hierarchy Chart**

**A picture containing text, businesscard

Description automatically generated**

**c. Pseudocode**

START

1. Declare String Tanggal, Nama\_Pengunjung, Jam\_Masuk, Status
2. Declare Real Suhu\_Tubuh
3. Declare Integer Nomor, Halaman, Baris, Total\_Valid, Total\_Invalid, Total\_Pengunjung, GrandTotal\_Valid, GrandTotal\_Invalid, GrandTotal\_Pengunjung
4. Module main()
5. Set Nomor = 0
6. Set Baris = 0
7. Set Halaman = 0
8. Set Total\_Valid = 0
9. Set Total\_Invalid = 0
10. Set Total\_Pengunjung = 0
11. Set GrandTotal\_Valid = 0
12. Set GrandTotal\_Invalid = 0
13. Set GrandTotal\_Pengunjung = 0
14. Open inputFile “Pengunjung.dat”
15. DO until EOF
16. Read inputFile Nomor
17. Read inputFile Tanggal
18. Read inputFile Nama\_Pengunjung
19. Read inputFile Jam\_Masuk
20. Read inputFile Suhu\_Tubuh
21. Read inputFile Status
22. Set perTanggal = Tanggal
23. IF baris > 40
24. Call Header()
25. END IF
26. Call dataLaporan()
27. IF perTanggal != Tanggal
28. Call subTotal()
29. Set perTanggal = Tanggal
30. END IF
31. END DO
32. Call subTotal()
33. Call grandTotal()
34. Close “Pengunjung.dat”
35. END Module
36. Module Header()
37. Set Halaman = Halaman + 1
38. Display “LAPORAN PENGUNJUNG MALL BINUSIAN”
39. Display “Halaman: ”, Halaman
40. Set Baris = Baris + 3
41. END Module
42. Module dataLaporan()
43. Set Nomor = Nomor + 1
44. Display Column Header (No., Tanggal, Nama Pengunjung, Jam Masuk, Suhu Tubuh, Status)
45. Display Nomor, Tanggal, Nama\_Pengunjung, Jam\_Masuk, Suhu\_Tubuh
46. IF Suhu\_Tubuh > 37.5
47. Set Status = Tidak Valid
48. Set Total\_Invalid = Total\_Invalid + 1
49. ELSE
50. Set Status = Valid
51. Set Total\_Valid = Total\_Valid + 1
52. END IF
53. Set Total\_Pengunjung = Total\_Pengunjung + 1
54. END Module
55. Module subTotal()
56. Set GrandTotal\_Valid = GrandTotal\_Valid + Total\_Valid
57. Set GrandTotal\_Invalid = GrandTotal\_Invalid + Total\_Invalid
58. Set GrandTotal\_Pengunjung = GrandTotal\_Pengunjung + Total\_Pengunjung
59. Display “Jumlah Pengunjung Status Valid :”, Total\_Valid
60. Display “Jumlah Pengunjung Status Tidak Valid :”, Total\_Invalid
61. Display “Total Pengunjung Tanggal “, Tanggal “:”, Total\_Pengunjung
62. Set Total\_Valid = 0
63. Set Total\_Invalid = 0
64. Set Total\_Pengunjung = 0
65. END Module
66. Module grandTotal()
67. Display “Total Seluruh Pengunjung Status Valid :”, GrandTotal\_Valid
68. Display “Total Seluruh Pengunjung Status Tidak Valid :”, GrandTotal\_Invalid
69. Display “Total Seluruh Pengunjung :”, GrandTotal\_Pengunjung
70. END Module

END

1. **a. User Interface**

**Graphical user interface, application

Description automatically generated**

**b. Pseudocode**

START

1. Declare Integer harga = hargaEmas \* beratEmas
2. Declare Integer diskon = 0
3. IF(harga > 2000000)
4. diskon = harga \* 0,05
5. harga = harga – diskon
6. END IF
7. Display diskon
8. Display harga

END