LAPORAN PRAKTIKUM

POSTTEST 5

ALGORITMA PEMROGRAMAN DASAR

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PROGRAM STUDI INFORMATIKA

UNIVERSITAS MULAWARMAN

SAMARINDA

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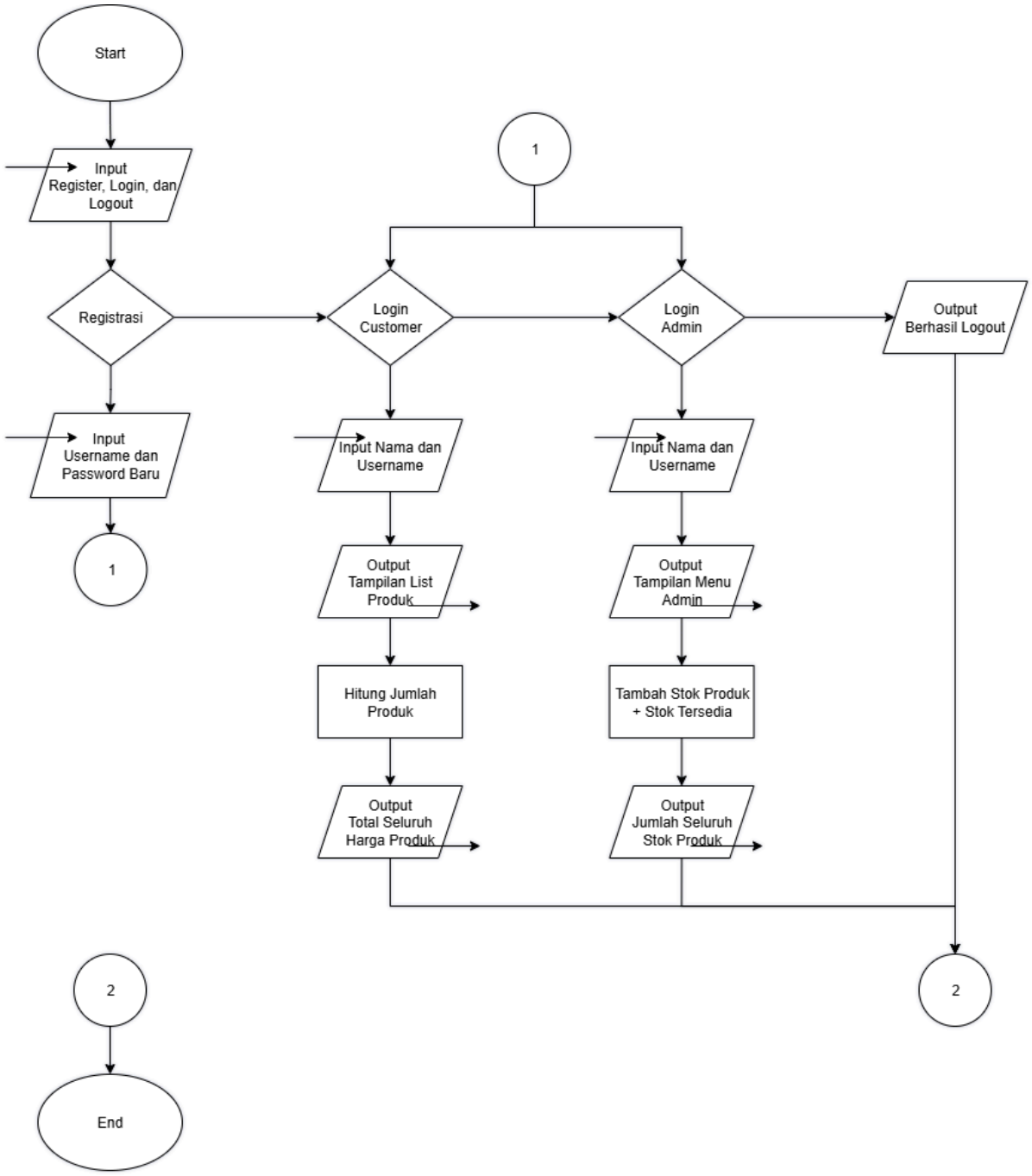
1. Flowchart



Gambar 1.0 Flowchart

2. Deskripsi Program

Program ini dibuat untuk mempermudah pelanggan untuk membeli tiket dan merch Nürburgring Nordschleife dengan cepat dan mudah dipahami.

3. Source Code

```
users = {
    'Admin': {'password': 'Sufi123', 'role': 'admin'},
    'Sufi': {'password': 'Sufi456', 'role': 'customer'}
}

carts = {
    'Sufi': []
}

tickets = [
    [1, "Event Ticket (Thur-Sun)", 1500000, 100],
    [2, "Weekend Ticket (Fri-Sun)", 1300000, 200],
    [3, "Race Ticket", 1150000, 300],
    [4, "Day Ticket", 700000, 350],
    [5, "Paddock Access Add-on", 1000000, 75]
]

merchandise = [
    [1, "N24H Official T-Shirt", 1200000, 100],
    [2, "N24H Cap", 600000, 120],
    [3, "N24H SunGlasses", 2700000, 75],
    [4, "Wall Clock (NBR)", 700000, 100],
    [5, "Scale Model Car 1:43", 1300000, 75]
]

transactions = []

def main():
    while True:
        print(" ")
        print(""" ==| Welcome To Nürburgring |==
+-------------------------------------------------------------+
|       1. Registration        |
|          2. Login            |
|          3. Logout           |
+-------------------------------------------------------------+""")
        choice = input("Enter Your Choice: ")

        if choice == '1':
            register()
```

```
        elif choice == '2':
            username, role = login()
            if username and role == 'customer':
                customer_menu(username)
            elif username and role == 'admin':
                admin_menu()
        elif choice == '3':
            print("Thanks For Using Nürburgring")
            break
        else:
            print("Invalid Choice!!, Try Again")

if __name__ == "__main__":
    main()
def register():
    print(" ")
    print(" ==| User Registration |==")
    username = input("New Username: ")

    if username in users:
        print(" ")
        print("Username Already used!")
        return

    password = input("New Password: ")
    users[username] = {'password': password, 'role': 'customer'}
    carts[username] = []
    print(f"Registration Successful: {username}")

def login():
    print(" ")
    print(" ==| Login Admin/Customer |==")
    print("+-----------------------------------------------------+")
    username = input("Username: ")
    password = input("Password: ")
    print(" ")

    user_data = users.get(username)
    if user_data and user_data['password'] == password:
        print(f"Login Successful, Welcome {username}!")
        return username, user_data['role']

    print("Invalid Username or Password!!")
    return None, None

def display_products(product_list, title):
    print(" ")
    print(" ==| Ticket/Merchandise List |==")
```

```
print("+-------------------------------------------------------------+")
    print("ID | Ticket and Merch                 | Price        | Stock")
    print("-" * 55)
    for item in product_list:
        # Format agar tampilan rapi
        print(f"{item[0]:<2} | {item[1]:<25} | Rp{item[2]:<10} | {item[3]}")
    print("-" * 55)

def add_to_cart(username, product_type):
    product_list = tickets if product_type == 'tiket' else merchandise
    title = "Ticket List" if product_type == 'tiket' else "Merchandise List"
    display_products(product_list, title)

    item_id_str = input("Enter The Product ID You Want To Buy: ")
    if not item_id_str.isdigit():
        print("Invalid ID Input, Must Be A Number.")
        return

    item_id = int(item_id_str)
    selected_item = None
    for item in product_list:
        if item[0] == item_id:
            selected_item = item
            break

    if not selected_item:
        print("ID Product Not Found.")
        return

    quantity_str = input(f"Amount '{selected_item[1]}' What You Want To Buy:
")
    if not quantity_str.isdigit() or int(quantity_str) <= 0:
        print("Invalid Number, Number Must Be A Greater Than 0.")
        return

    quantity = int(quantity_str)
    if quantity > selected_item[3]:
        print(f"Insufficient Stock. Remaining Stock: {selected_item[3]}")
        return

    carts[username].append({'item': selected_item, 'quantity': quantity,
'type': product_type})
    print(f"Successfully Added {quantity} x {selected_item[1]} To Cart.")

def view_cart(username):
    print(" ")
    print(" ==| Your Shopping Cart |==")
```

```
    print("+-------------------------------------------------+")
    user_cart = carts.get(username, [])

    if not user_cart:
        print("Your Cart Is Empty.")
        return

    total_price = 0
    print("No | Produk Name                 | Amount | Subtotal")
    print("-" * 55)
    for i, cart_item in enumerate(user_cart, 1):
        item_details = cart_item['item']
        quantity = cart_item['quantity']
        subtotal = item_details[2] * quantity
        total_price += subtotal
        print(f"{i:<2} | {item_details[1]:<25} | {quantity:<6} |
Rp{subtotal}")

    print("-" * 55)
    print(f"Total Spending: Rp{total_price}")

def checkout(username):
    user_cart = carts.get(username, [])

    if not user_cart:
        print("Your Cart Is Empty. There Is Nothing To Checkout.")
        return

    print(" ")
    print(" ==| Checkout Cart |==")
    print("+-----------------------------------------+")
    for cart_item in user_cart:
        item_id = cart_item['item'][0]
        product_list = tickets if cart_item['type'] == 'tiket' else
merchandise

        current_item_stock = -1
        for db_item in product_list:
            if db_item[0] == item_id:
                current_item_stock = db_item[3]
                break

        if cart_item['quantity'] > current_item_stock:
            print(f"Sorry, Stock For '{cart_item['item'][1]}' Has Run
Out/Decreased. Transaction Cancelled.")
            return

    total_price = 0
```

```
    for cart_item in user_cart:
        item_details = cart_item['item']
        quantity = cart_item['quantity']
        item_details[3] -= quantity
        total_price += item_details[2] * quantity

    transactions.append({'customer': username, 'items': user_cart, 'total':
total_price})
    carts[username] = []
    print(f"Transaction Successful, Total Payment: Rp{total_price}.
Thanks!")

def customer_menu(username):
    while True:
        print(" ")
        print(" ==| Customer Menu |==")
        print("+-----------------------------------------+")
        print("1. View & Buy Ticket")
        print("2. View & Buy Merchandise")
        print("3. View Shopping Cart")
        print("4. Checkout")
        print("5. Logout")
        choice = input("Enter Your Choice: ")

        if choice == '1': add_to_cart(username, 'tiket')
        elif choice == '2': add_to_cart(username, 'merch')
        elif choice == '3': view_cart(username)
        elif choice == '4': checkout(username)
        elif choice == '5': print("You Have Logged Out."); break
        else: print("Invalid Choice.")


def admin_view_transactions():
    print(" ")
    print(" ==| Report Of All Transactions |==")

print("+-----------------------------------------------------------------------
+")
    if not transactions:
        print("None Transaction.")
        return
    for i, trans in enumerate(transactions, 1):
        print(f"Transaction #{i}")
        print(f"  Customer: {trans['customer']}")
        print(f"  Total    : Rp{trans['total']}")
        print("  Detail Item:")
        for cart_item in trans['items']:
            item = cart_item['item']
```

```
            quantity = cart_item['quantity']
            print(f"    - {item[1]} (x{quantity})")
        print("-" * 30)

def admin_select_product():
    choice = input("Select Product Category (1: Ticket, 2: Merchandise): ")
    if choice == '1':
        product_list = tickets
        display_products(product_list, "Ticket List")
    elif choice == '2':
        product_list = merchandise
        display_products(product_list, "Merchandise List")
    else:
        print("Invalid Category.")
        return None

    item_id_str = input("Enter The Product To Be Set: ")
    if not item_id_str.isdigit():
        print("Invalid ID Input, Must Be A Number.")
        return None

    item_id = int(item_id_str)
    for item in product_list:
        if item[0] == item_id:
            return item

    print("Product Not Found.")
    return None

def admin_update_price():
    print(" ")
    print(" ==| Change Price |==")
    print("+--------------------------------------+")
    item_to_manage = admin_select_product()

    if not item_to_manage:
        return

    print(f"Change The Price For: '{item_to_manage[1]}'")
    print(f"Current Price: Rp{item_to_manage[2]}")

    new_price_str = input("Enter New Price: ")
    if not new_price_str.isdigit() or int(new_price_str) < 0:
        print("Invalid Price, Must Be A Non-Negative Number.")
        return

    item_to_manage[2] = int(new_price_str)
    print("Price Changed Successfully")
```

```
def admin_add_stock():
    print(" ")
    print(" ==| Add Product Stock |==")
    print("+-------------------------------------------------+")
    item_to_manage = admin_select_product()

    if not item_to_manage:
        return

    print(f"Add Stock To: '{item_to_manage[1]}'")
    print(f"Currrent Stock: {item_to_manage[3]}")

    amount_str = input("Stock Quantity Increased: ")
    if not amount_str.isdigit() or int(amount_str) <= 0:
        print("Invalid Number, Must Be A Positive Number.")
        return

    item_to_manage[3] += int(amount_str)
    print(f"Stock Added Successfully. New Stock: {item_to_manage[3]}")

def admin_set_stock():
    print(" ")
    print(" ==| Product Stock Reset |==")
    print("+-------------------------------------------------------+")
    item_to_manage = admin_select_product()

    if not item_to_manage:
        return

    print(f"Reset Stock For: '{item_to_manage[1]}'")
    print(f"Current Stock: {item_to_manage[3]}")

    new_stock_str = input("Enter New Stock Quantity: ")
    if not new_stock_str.isdigit() or int(new_stock_str) < 0:
        print("Invalid Number, Must Be A Non-Negative Number.")
        return

    item_to_manage[3] = int(new_stock_str)
    print(f"Stock Successfully Reset, New Stock: {item_to_manage[3]}")

def admin_menu():
    while True:
        print(" ")
        print(" ==| Admin Menu |==")
        print("+-----------------------------------+")
        print("1. View Transaction Reports")
        print("2. Change Product Price")
```

```
        print("3. Added New Stock")
        print("4. Product Stock Reset")
        print("5. Logout")
        choice = input("Enter Your Choice: ")

        if choice == '1':
            admin_view_transactions()
        elif choice == '2':
            admin_update_price()
        elif choice == '3':
            admin_add_stock()
        elif choice == '4':
            admin_set_stock()
        elif choice == '5':
            print("You Have Logged Out.")
            break
        else:
            print("Invalid Choice.")
```

Gambar 1.1 Source Code

4. Hasil Output

4.1 Hasil Output Registrasi

```
 ==| Welcome To Nürburgring |==
+-------------------------------------------------------------+
|       1. Registration       |
|          2. Login           |
|          3. Logout          |
+-------------------------------------------------------------+
Enter Your Choice: 1

 ==| User Registration |==
New Username: Bintang
New Password: bintang cihuy
Registration Successful: Bintang
```

Gambar 1.2 Output Registrasi

4.2 Hasil Output Login Customer

```
 ==| Welcome To Nürburgring |==
+-------------------------------------------------------------+
```

```
|       1. Registration        |
|          2. Login            |
|          3. Logout           |
+------------------------------------------------------------+
Enter Your Choice: 2

 ==| Login Admin/Customer |==
+----------------------------------------------------------+
Username: Bintang
Password: Bintang Cihuy

Login Successful, Welcome Bintang!
```

Gambar 1.3 Output Login Customer

4.2 Hasil Output Login Admin

```
 ==| Welcome To Nürburgring |==
+------------------------------------------------------------+
|       1. Registration        |
|          2. Login            |
|          3. Logout           |
+------------------------------------------------------------+
Enter Your Choice: 2

 ==| Login Admin/Customer |==
+----------------------------------------------------------+
Username: Admin
Password: Sufi123

Login Successful, Welcome Admin!
```

Gambar 1.4 Output Login Admin

4.2 Hasil Output Admin Menu

```
 ==| Admin Menu |==
+-----------------------------------+
1. View Transaction Reports
2. Change Product Price
3. Added New Stock
4. Product Stock Reset
```

```
5. Logout
Enter Your Choice: 3

 ==| Add Product Stock |==
+-------------------------------------------------+
Select Product Category (1: Ticket, 2: Merchandise): 1

 ==| Ticket/Merchandise List |==
+-----------------------------------------------------------+
ID | Ticket and Merch                | Price        | Stock
-----------------------------------------------------
1  | Event Ticket (Thur-Sun)   | Rp1500000    | 100
2  | Weekend Ticket (Fri-Sun)  | Rp1300000    | 200
3  | Race Ticket               | Rp1150000    | 300
4  | Day Ticket                | Rp700000     | 350
5  | Paddock Access Add-on     | Rp1000000    | 75
-----------------------------------------------------
Enter The Product To Be Set: 4
Add Stock To: 'Day Ticket'
Currrent Stock: 350
Stock Quantity Increased: 375
Stock Added Successfully. New Stock: 725
```

Gambar 1.5 Output Login Admin Menu

4.2 Hasil Output Customer Menu

```
 ==| Welcome To Nürburgring |==
+-------------------------------------------------------------+
|       1. Registration        |
|          2. Login            |
|          3. Logout           |
+-------------------------------------------------------------+
Enter Your Choice: 2

 ==| Login Admin/Customer |==
+-----------------------------------------------------+
Username: Bintang
Password: Bintang Cihuy

Login Successful, Welcome Bintang!

 ==| Customer Menu |==
```

```
+----------------------------------------+
1. View & Buy Ticket
2. View & Buy Merchandise
3. View Shopping Cart
4. Checkout
5. Logout
Enter Your Choice: 2

 ==| Ticket/Merchandise List |==
+-------------------------------------------------------------+
ID | Ticket and Merch                | Price        | Stock
-------------------------------------------------------------
1  | N24H Official T-Shirt     | Rp1200000    | 100
2  | N24H Cap                  | Rp600000     | 120
3  | N24H SunGlasses           | Rp2700000    | 75
4  | Wall Clock (NBR)          | Rp700000     | 100
5  | Scale Model Car 1:43      | Rp1300000    | 75
-------------------------------------------------------------
Enter The Product ID You Want To Buy: 2
Amount 'N24H Cap' What You Want To Buy: 4
Successfully Added 4 x N24H Cap To Cart.

 ==| Customer Menu |==
+----------------------------------------+
1. View & Buy Ticket
2. View & Buy Merchandise
3. View Shopping Cart
4. Checkout
5. Logout
Enter Your Choice: 3

 ==| Your Shopping Cart |==
+-----------------------------------------------------+
No | Produk Name                | Amount | Subtotal
-------------------------------------------------------
1  | N24H Cap                   | 4      | Rp2400000
-------------------------------------------------------
Total Spending: Rp2400000

 ==| Customer Menu |==
+----------------------------------------+
1. View & Buy Ticket
```

```
2. View & Buy Merchandise
3. View Shopping Cart
4. Checkout
5. Logout
Enter Your Choice: 4

 ==| Checkout Cart |==
+----------------------------------------+
Transaction Successful, Total Payment: Rp2400000. Thanks!
```

Gambar 1.6 Output Login Customer Menu

5. Langkah-langkah GIT

5.1 GIT Add

```
PS C:\Users\acer\Documents\Praktikum_APD_2025_C1> git add .
```

Gambar 1.3 GIT Add

GIT Add digunakan untuk menambahkan file ke *staging area* atau tempat penyimpanan sebelum disimpan secara permanen.

5.2 GIT Commit

```
PS C:\Users\acer\Documents\Praktikum_APD_2025_C1> git commit -m
"Post_Test_APD_5"
[main 897ef25] Post_Test_APD_5
```

Gambar 1.4 GIT Commit

GIT Commit digunakan untuk menimpan perubahan file yang telah diubah pada GIT *Add.*

5.3 GIT Push

```
PS C:\Users\acer\Documents\Praktikum_APD_2025_C1> git push -u origin
main
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 8 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (9/9), 3.66 KiB | 535.00 KiB/s, done.
Total 9 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
```

```
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To https://github.com/SufiRidhoUtomo/Praktikum_APD_2025_C1.git
   0962ca0..7762900  main -> main
branch 'main' set up to track 'origin/main'.
```

Gambar 1.5 GIT Push

GIT Push digunakan untuk mengirim perubahan file dari *local repository* ke *Remote* untuk diproses oleh *Remote* untuk dihubungkan menuju *online Repository.*