

16. ILLUSTRATION OF STACK PROGRAMMING USING LIST OF PRODUCTS – III

Develop a program to implement the following stack operations in python using list of product names.

1. Push an item name to the stack(the products whose name starts with b/B)
2. Pop item name from the stack
3. Display the stack
4. Exit

Source Code

```
stack = [] # stack is a global variable

def push(name):
    if name[0] in "Bb":
        stack.append(name)
        print(name, "was added to the stack")
    else:
        print("Product name does not start with 'b'")

def pop():
    if stack != []:
        product = stack.pop()
        print(product, "was popped from the stack")
    else:
        print("Stack Underflow")
        print("There are no items in the stack")

def showStack():
    print("-----")
    for product in stack:
        print(product)
    print("-----")

while True:
    print("=====")
    print("What would you like to do?")
```

```

print("""
[1] Push a product to the stack (if it's name starts with 'b')
[2] Pop a product from the stack
[3] Display the list of products
[4] Exit
""")

ch = input("Enter your choice[1/2/3/4]: ")

if ch == "1":
    name = input("Enter product name: ")
    push(name)

elif ch == "2":
    pop()

elif ch == "3":
    showStack()

elif ch == "4":
    print("[ Exiting ]") # Break from the loop to exit
    break

else:
    print("[ Invalid Choice ]") # In case user inputs a choice that was n

```

OUTPUT

```

=====

```

What would you like to do?

```

[1] Push a product to the stack (if it's name starts with 'b')
[2] Pop a product from the stack
[3] Display the list of products
[4] Exit

```

Enter your choice[1/2/3/4]: 1

Enter product name: B Pen

B Pen was added to the stack

```

=====

```

What would you like to do?

```

[1] Push a product to the stack (if it's name starts with 'b')
[2] Pop a product from the stack
[3] Display the list of products
[4] Exit

```

Enter your choice[1/2/3/4]: 1

Enter product name: Berries

Berries was added to the stack

=====

What would you like to do?

- [1] Push a product to the stack (if it's name starts with 'b')
- [2] Pop a product from the stack
- [3] Display the list of products
- [4] Exit

Enter your choice[1/2/3/4]: 1

Enter product name: Apples

Product name does not start with 'b'

=====

What would you like to do?

- [1] Push a product to the stack (if it's name starts with 'b')
- [2] Pop a product from the stack
- [3] Display the list of products
- [4] Exit

Enter your choice[1/2/3/4]: 3

B Pen

Berries

=====

What would you like to do?

- [1] Push a product to the stack (if it's name starts with 'b')
- [2] Pop a product from the stack
- [3] Display the list of products
- [4] Exit

Enter your choice[1/2/3/4]: 2

Berries was popped from the stack

=====

What would you like to do?

- [1] Push a product to the stack (if it's name starts with 'b')
- [2] Pop a product from the stack
- [3] Display the list of products
- [4] Exit

Enter your choice[1/2/3/4]: 3

B Pen

=====

What would you like to do?

- [1] Push a product to the stack (if it's name starts with 'b')
- [2] Pop a product from the stack

[3] Display the list of products

[4] Exit

Enter your choice[1/2/3/4]: 4

[Exiting]