**The Pizza Orderer Plan**

**Program overview**

**Functions**

* find\_details()
  + Parameter(s): -
  + In this function, find out:
    - The customer’s name and use it to address them throughout the program
    - Whether the customer wants their pizza delivered to them or whether they want it picked up
    - If they want their pizza delivered to them then:
      * Collect their address and their phone number
    - Return name and address so that you can use it later on in the program
* take\_order()
  + Parameter(s): name
  + In this function:
    - Establish the pizza options and the pizza prices
      * Zip into a menu for easier navigation later on in the program
    - Create empty list for customer’s order, which we will add pizzas to later on.
    - When the length of said list is less than 5 (items)
      * Display pizza items and allow user to choose pizzas they want
      * Add the pizzas they want to their menu list
      * Have an exit option also on the displayed options
    - Return the order list and menu so you can use them later on
* checkout()
  + Parameter(s): name, order, menu, address
  + In this function:
    - Show full receipt with pizzas ordered along with their price
    - If the customer chose for their pizza to be delivered at the start of the program (in find\_details()) display a CONSTANT delivery charge of $3, if they chose to pick up, do not add any charge.
    - Display the total cost of their order, with delivery (if applicable)
* cancel\_order()
  + Parameter(s): address
  + In this function:
    - Check if the customer wants to confirm their order or if they want to cancel.
    - If they choose to cancel the order
      * Tell them their order has been cancelled, and restart the program
    - If they choose to continue:
      * If their order was to be delivered:
        + Tell them their order will be delivered to address in 30 min
      * If their order was to be picked up:
        + Tell them their order will be ready to be picked up at the store in 20 minutes.

**Main program**

* Set main program loop to go and begin loop
* Greet the user
* Begin function 1, find\_details() – (arguments: - )
* Begin function 2, take\_order() – (arguments: name)
* Begin function 3, checkout() – (arguments: name, order, menu, address)
* Begin function 4, cancel\_order() – (arguments: address)

**Functions Plan (ALL VARIABLE UNLESS OTHERWISE STATED)**

**Function 1: find\_details()**

*This is the first function which asks for the customer's details*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Type** | **Scope** | **What does it hold** | **Possibilities** |
| cust\_name | string | local | This is the local variable for a customer's name | any |
| pick\_deliver | string | local | This will store whether the customer wants to pick up their order or have their order delivered. | “1” & “2” |
| cust\_address | string | local | This will either store the customer’s address, or it will store “not required”, if it is not required | "not required” & any |

**Function 2: take\_order()**

*This is the second function which shows the customer a menu and takes the customer's actual order. For this we use the parameter of the global variable 'name', so that we can personalise the program and refer to the customer using their inputted name*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Type** | **Scope** | **What does it hold** | **Possibilities** |
| pizza\_options | list string | local | All the pizzas that the restaurants serve in a list | List of pizzas |
| pizza\_costs | list integer | local | All the costs of the pizzas in a list | List of numbers |
| pizza\_menu | dictionary string | local | Dictionaries of the pizzas with the costs | Dictionary of costs and options |
| cust\_order | string | local | Empty till the customer picks pizzas from the pizza\_options (pizza\_wanted stored) **DERIVED** | Pizzas from pizza\_options |
| pizza\_wanted | string | local | Pizza that customer wants from the pizza\_options | Pizza from pizza\_options |

**Function 3: checkout()**

*This is the third function, where we compile all the costs of their order, and tell the customer, aka, the checkout. For it we use name, order, menu and address as parameters, for the function to properly function.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Type** | **Scope** | **What does it hold** | **Possibilities** |
| total\_cost | integer | local | **Derived** cost of the whole order + delivery if applicable | Any integer |
| DELIVERY | integer | local | The **constant** delivery charge | 3 |

**Function 4: cancel\_order()**

*This is the final function which finalises the customer's order and allows them to cancel if they want.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Type** | **Scope** | **What does it hold** | **Possibilities** |
| cancel | string | local | Whether they want to cancel their order or not | ”c” & “d” |

**Main Program**

*This is the Main Program*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Type** | **Scope** | **What does it hold/is it** | **Possibilities** |
| main\_program | string | global | Keeps full program constantly running on a loop | “go” |
| name | string | global | Global version of cust\_name | any |
| address | string | global | Global version of cust\_address | "not required” & any |
| order | string | global | Global version of cust\_order | max 5 items from menu |
| menu | string | global | Global version of pizza\_menu | Items from pizza\_options and pizza\_costs |

**Testing**

**Expected Values**

|  |  |
| --- | --- |
| **Process** | **Test User Input** |
| Start |  |
| Say “Welcome to the Pizza Orderer” |  |
| Say: “What is your name?”   * Store ‘Ananya’ as cust\_name | Ananya |
| Say: “Type '1' if you want to pick up your order, or '2' if you want it delivered:”   * Store ‘2’ as pick\_deliver | 2 |
| Say: “What is your address Ananya? "   * Store ‘103 Cas Place’ as cust\_address | 103 Cas Place |
| Say: “What is your phone number?” | 02103846539 |
| Say: “Your pizza(s) will be sent to 103 Cas Place when you have placed your order” |  |
| Set pizza\_options to: "0", "Herbivore Food Pizza", "Semi-Solid & Stretchy Milk Pizza", "State in US-n Pizza", "Liquid Red Fruit and Green Leaves Pizza", "Dead Animal Appriciaters Pizza", "Red Flat Circle Pizza", "Rhymes with Mausage Pizza", "Pig Meat and Semi-Solid Milk Pizza", "Royal Sliced Pizza", "Small Oval Fruit Pizza", "Fish Pizza", "Sweet Course Pizza” |  |
| Set pizza\_costs to: 0, 8, 6, 10, 7, 14, 15, 9, 7, 6, 10, 12, 13 |  |
| Zip lists (pizza\_options and pizza\_costs) together to make dictionary pizza\_menu |  |
| Make empty list for cust\_order |  |
| Say: "Ok Ananya Here is our menu, we have a variety of Pizzas you can order from." |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘1’ as pizza\_wanted | 1 |
| Set ‘1’ to 1 (make into integer) |  |
| Add "Herbivore Food Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘4’ as pizza\_wanted | 4 |
| Set ‘4’ to 4 (make into integer) |  |
| Add "Liquid Red Fruit and Green Leaves Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza  Liquid Red Fruit and Green Leaves Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘e’ as pizza\_wanted | e |
| Say: “Here is your receipt Ananya” |  |
| Set total\_cost to 0 |  |
| Set total\_cost to 0 + cost of pizzas = $15.00 |  |
| Say: “Herbivore Food Pizza: $8.00  Liquid Red Fruit and Green Leaves Pizza: $7.00” |  |
| Set constant DELIVERY to 3 |  |
| Say: “Delivery: $3.00” |  |
| Say: “Your total comes to: $18.00” |  |
| Say: “If you would like to cancel your order: Type 'c', otherwise, Type 'd':”   * Set cancel to ‘d’ | d |
| Say: “Your order will be delivered to your address: '103 Cas Place', in around 30 minutes” |  |
| RESTART |  |

**Unexpected Values**

|  |  |
| --- | --- |
| **Process** | **Test User Input** |
| Start |  |
| Say “Welcome to the Pizza Orderer” |  |
| Say: “What is your name?”   * Store ‘Ananya’ as cust\_name | Ananya |
| Say: “Type '1' if you want to pick up your order, or '2' if you want it delivered:”   * Store ‘1’ as pick\_deliver | 1 |
| Set pizza\_options to: "0", "Herbivore Food Pizza", "Semi-Solid & Stretchy Milk Pizza", "State in US-n Pizza", "Liquid Red Fruit and Green Leaves Pizza", "Dead Animal Appriciaters Pizza", "Red Flat Circle Pizza", "Rhymes with Mausage Pizza", "Pig Meat and Semi-Solid Milk Pizza", "Royal Sliced Pizza", "Small Oval Fruit Pizza", "Fish Pizza", "Sweet Course Pizza” |  |
| Set pizza\_costs to: 0, 8, 6, 10, 7, 14, 15, 9, 7, 6, 10, 12, 13 |  |
| Zip lists (pizza\_options and pizza\_costs) together to make dictionary pizza\_menu |  |
| Make empty list for cust\_order |  |
| Say: "Ok Ananya Here is our menu, we have a variety of Pizzas you can order from." |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘what’ as pizza\_wanted | what |
| Say: “Sorry Ananya, that wasn't a valid option, please pick a pizza from the menu” |  |
| Say: “Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "  Set ‘1’ as pizza\_wanted | 1 |
| *Follow Expected Value Test till the end* |  |

**Boundary Values – Maximum (5)**

|  |  |
| --- | --- |
| **Process** | **Test User Input** |
| Start |  |
| Say “Welcome to the Pizza Orderer” |  |
| Say: “What is your name?”   * Store ‘Ananya’ as cust\_name | Ananya |
| Say: “Type '1' if you want to pick up your order, or '2' if you want it delivered:”   * Store ‘2’ as pick\_deliver | 2 |
| Say: “What is your address Ananya? "   * Store ‘103 Cas Place’ as cust\_address | 103 Cas Place |
| Say: “What is your phone number?” | 02103846539 |
| Say: “Your pizza(s) will be sent to 103 Cas Place when you have placed your order” |  |
| Set pizza\_options to: "0", "Herbivore Food Pizza", "Semi-Solid & Stretchy Milk Pizza", "State in US-n Pizza", "Liquid Red Fruit and Green Leaves Pizza", "Dead Animal Appriciaters Pizza", "Red Flat Circle Pizza", "Rhymes with Mausage Pizza", "Pig Meat and Semi-Solid Milk Pizza", "Royal Sliced Pizza", "Small Oval Fruit Pizza", "Fish Pizza", "Sweet Course Pizza” |  |
| Set pizza\_costs to: 0, 8, 6, 10, 7, 14, 15, 9, 7, 6, 10, 12, 13 |  |
| Zip lists (pizza\_options and pizza\_costs) together to make dictionary pizza\_menu |  |
| Make empty list for cust\_order |  |
| Say: "Ok Ananya Here is our menu, we have a variety of Pizzas you can order from." |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘1’ as pizza\_wanted | 1 |
| Set ‘1’ to 1 (make into integer) |  |
| Add "Herbivore Food Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘2’ as pizza\_wanted | 2 |
| Set ‘2’ to 2 (make into integer) |  |
| Add "Semi-Solid & Stretchy Milk Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza  Semi-Solid & Stretchy Milk Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘3’ as pizza\_wanted | 3 |
| Set ‘3’ to 3 (make into integer) |  |
| Add "State in US-n Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza  Semi-Solid & Stretchy Milk Pizz  State in US-n Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘4’ as pizza\_wanted | 4 |
| Set ‘4’ to 4 (make into integer) |  |
| Add "Liquid Red Fruit and Green Leaves Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza  Semi-Solid & Stretchy Milk Pizz  State in US-n Pizza  Liquid Red Fruit and Green Leaves Pizza” |  |
| Say: “Want another pizza?” |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘5’ as pizza\_wanted | 5 |
| Set ‘5’ to 5 (make into integer) |  |
| Add "Dead Animal Appriciaters Pizza" to cust\_order list |  |
| Say: “Your Order is:  Herbivore Food Pizza  Semi-Solid & Stretchy Milk Pizz  State in US-n Pizza  Liquid Red Fruit and Green Leaves Pizza  Dead Animal Appriciaters Pizza” |  |
| Say: “Here is your receipt Ananya” |  |
| Set total\_cost to 0 |  |
| Set total\_cost to 0 + cost of pizzas = $48.00 |  |
| Say: “Herbivore Food Pizza: $8.00  Semi-Solid & Stretchy Milk Pizza: $6.00  State in US-n Pizza: $10.00  Liquid Red Fruit and Green Leaves Pizza: $7.00  Dead Animal Appriciaters Pizza: $14.00” |  |
| Set constant DELIVERY to 3 |  |
| Say: “Delivery: $3.00” |  |
| Say: “Your total comes to: $48.00” |  |
| Say: “If you would like to cancel your order: Type 'c', otherwise, Type 'd':”   * Set cancel to ‘d’ | d |
| Say: “Your order will be delivered to your address: '103 Cas Place', in around 30 minutes” |  |
| RESTART |  |

**Boundary Values – Minimum (0)**

|  |  |
| --- | --- |
| **Process** | **Test User Input** |
| Start |  |
| Say “Welcome to the Pizza Orderer” |  |
| Say: “What is your name?”   * Store ‘Ananya’ as cust\_name | Ananya |
| Say: “Type '1' if you want to pick up your order, or '2' if you want it delivered:”   * Store ‘1’ as pick\_deliver | 1 |
| Set pizza\_options to: "0", "Herbivore Food Pizza", "Semi-Solid & Stretchy Milk Pizza", "State in US-n Pizza", "Liquid Red Fruit and Green Leaves Pizza", "Dead Animal Appriciaters Pizza", "Red Flat Circle Pizza", "Rhymes with Mausage Pizza", "Pig Meat and Semi-Solid Milk Pizza", "Royal Sliced Pizza", "Small Oval Fruit Pizza", "Fish Pizza", "Sweet Course Pizza” |  |
| Set pizza\_costs to: 0, 8, 6, 10, 7, 14, 15, 9, 7, 6, 10, 12, 13 |  |
| Zip lists (pizza\_options and pizza\_costs) together to make dictionary pizza\_menu |  |
| Make empty list for cust\_order |  |
| Say: "Ok Ananya Here is our menu, we have a variety of Pizzas you can order from." |  |
| Say: “Choose a pizza by entering the number that correlates with it:  Herbivore Food Pizza: Type '1'  Semi-Solid & Stretchy Milk Pizza: Type '2'  State in US-n Pizza: Type '3'  Liquid Red Fruit and Green Leaves Pizza: Type '4'  Dead Animal Appreciators Pizza: Type '5'  Red Flat Circle Pizza: Type '6'  Rhymes with Mausage Pizza: Type '7'  Pig Meat and Semi-Solid Milk Pizza: Type '8'  Royal Sliced Pizza: Type '9'  Small Oval Fruit Pizza: Type '10'  Fish Pizza: Type '11'  Sweet Course Pizza: Type '12'  Or Type 'e' to end and proceed to checkout,  You can have a maximum of 5 Pizzas in your order, type in a number, one at a time: "   * Set ‘e’ as pizza\_wanted | e |
| Say: “Here is your receipt Ananya” |  |
| Set total\_cost to 0 |  |
| Set total\_cost to 0 + cost of pizzas = $0.00 |  |
| Say: “Your total comes to: $0.00” |  |
| Say: “If you would like to cancel your order: Type 'c', otherwise, Type 'd':”   * Set cancel to ‘d’ | d |
| Say: “Your order will be ready to pick up in 20 minutes” |  |
| RESTART |  |

**Rough Plan**

**Functions**

Order 🡪 how many pizzas & which type

Cost 🡪 final calculator

Customer details 🡪 name & address (only if delivery)

Delivery 🡪 Constant cost

Canceling cancel 🡪 Option to cancel the final order

Goes back to take next order

Order of execution (main program)

* Function 1 - details
* Function 2 - order
* Function 3 - calculator
* Function 4 – canceling
* ~~Data type~~
* Flow chart/sequence
* ~~Testing (expected, boundry, unexpected)~~
* **Derived**
* **Constant**
* **Variable**

Testing