SCHOOL OF COMPUTING

SCSJ2013 DATA STRUCTURE AND ALGORITHM

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Mak Ngah Catering Food Ordering System

SECTION 09

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1.0 Introduction

1.1 Problem Statement

We choose Mak Ngah Food Ordering System as our topic. The problem that we found is customer need to write their order on the piece of paper instead the waiter or waitress takes order. Customer need to wait near counter until their orders food is ready for collection after placed their order. Sometime the order is misplaced or other customer gets the food first. Not only that, they also take order through whatsApp. This way also can be a problem because sometime the staff didn't noticed the order or a late reply from them. So, instead of the manual way, why not we develop a food ordering system instead.

This system is aimed at developing an online ordering system which user can browse and use to place orders with just a few clicks. After making selection, the item is then added to their order, which the customer can review the details of at any time before checking out. The payment can be made through the system. Customer will be in a position to search for food, place an order and view their order queue. There will be a confirmed receipt for each and every order made by customer.

For the system we will create a class menu that contains attributes for food. Customer can view, search and choose their desired food. Admin can manage order by delete and view it. The type of data structure that will be applied in this food ordering system is queue linear array implementation. This system is able to view, delete, add and search.

1.2 Objectives

The objectives of the food ordering system are listed below:

- To develop a system that will surely satisfied the customer service.
- To design a system able to accommodate huge amount of orders at a time.
- To enable customers to have a visual confirmation that the order was placed correctly.
- To improve the communication between the client and the server and minimize the time of ordering.

2.0 Use case Diagram

The Use Case Diagram for Mak Ngah Catering Food Ordering System is shown below:

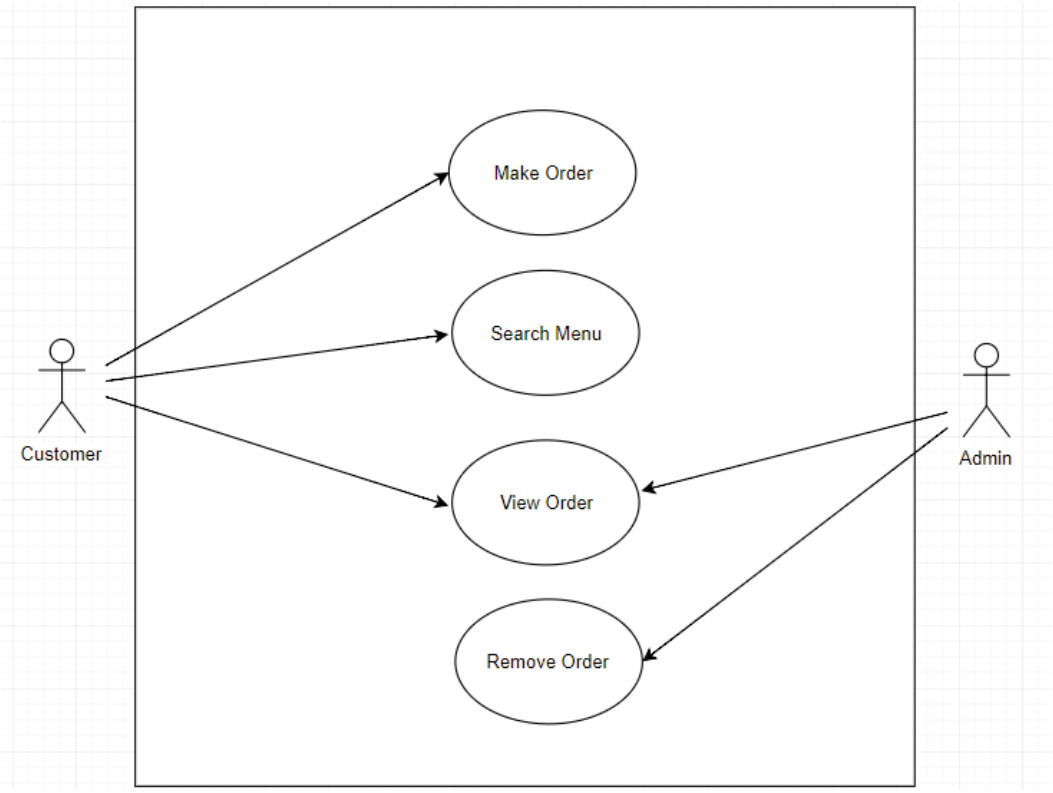


Figure 1: Use Case Diagram for Mak Ngah Catering Food Ordering System

2.1 Use Case Description

Actor	Task
Admin	Receives the order placed by the customer through internal order system.
Customer	Customer places an order from the available choices after indicating his preference for the session.

The detail descriptions for each use case are listed below:

1. **Make Order**
   - Customer should be able to make an order from the available choices.
   - Customer should be able to view the list of menu that Mak Ngah Catering provided.
   - Customer should be able to insert the food quantity.
   - The system should be able to provide customer with the queue number.
   - The system should be able to calculate the total price.

2. **Remove Order**
   - The system should be able make admin to remove order.

3. **Instant Order**
   - Customer and admin should be able to view instant order preview.
   - Customer should be able to view their queue number in a list.

4. **Search Menu**
   - The system should be able user to search what kind of food Mak Ngah provided.

2.2 Flow chart

The flow chart for Mak Ngah Catering Food Ordering System is shown below:

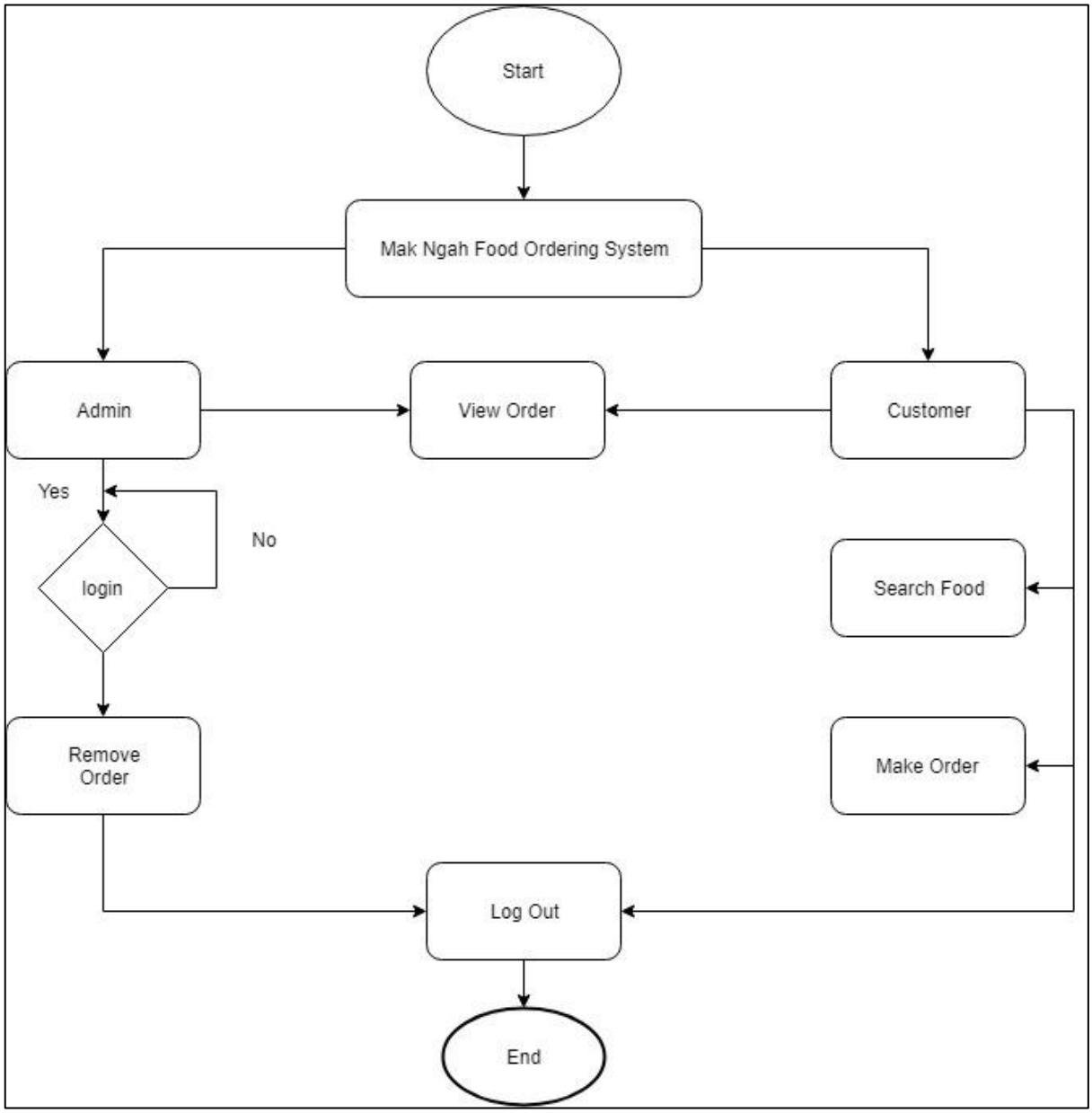
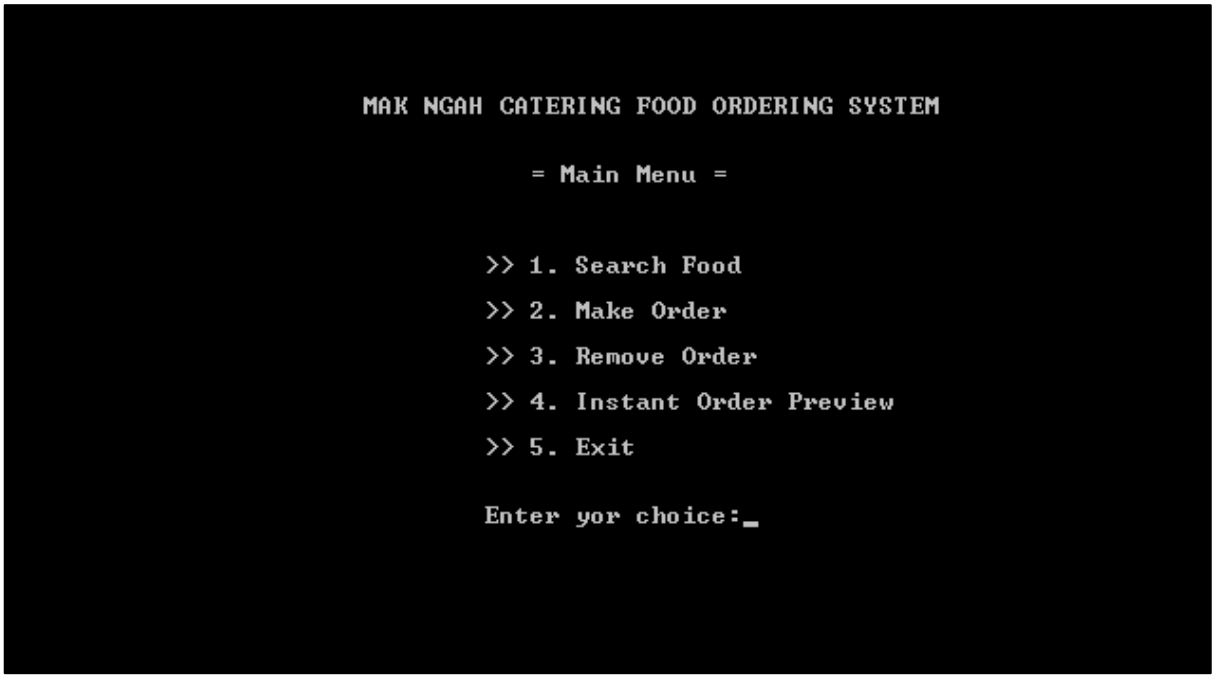


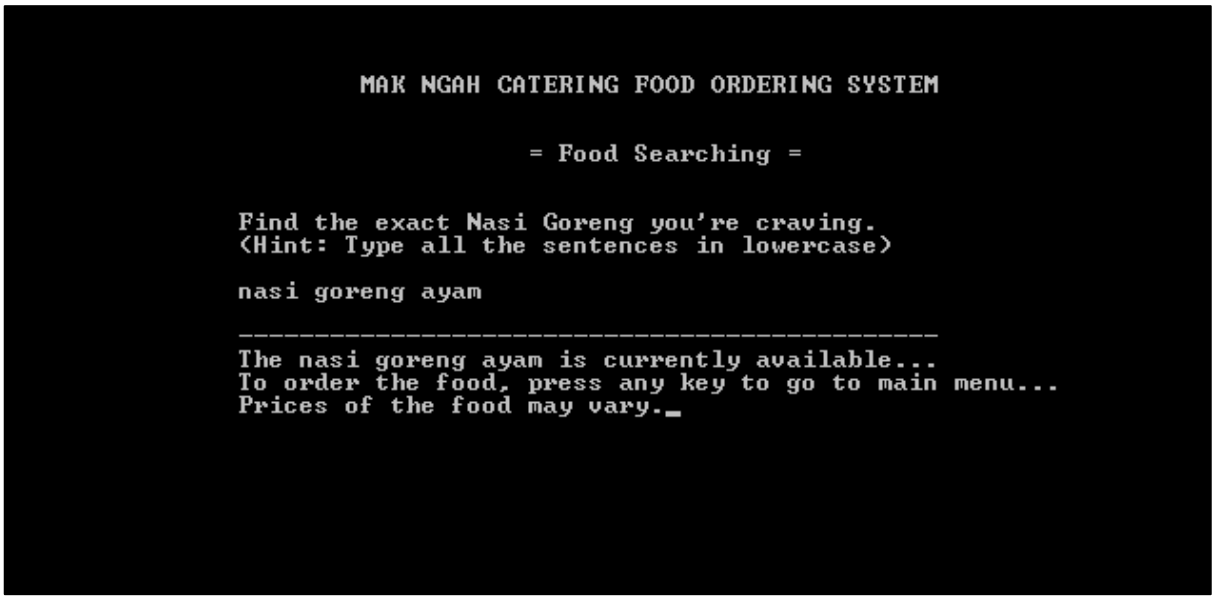
Figure 2: Flow Chart Diagram for Mak Ngah Catering Food Ordering System

3.0 System Prototype

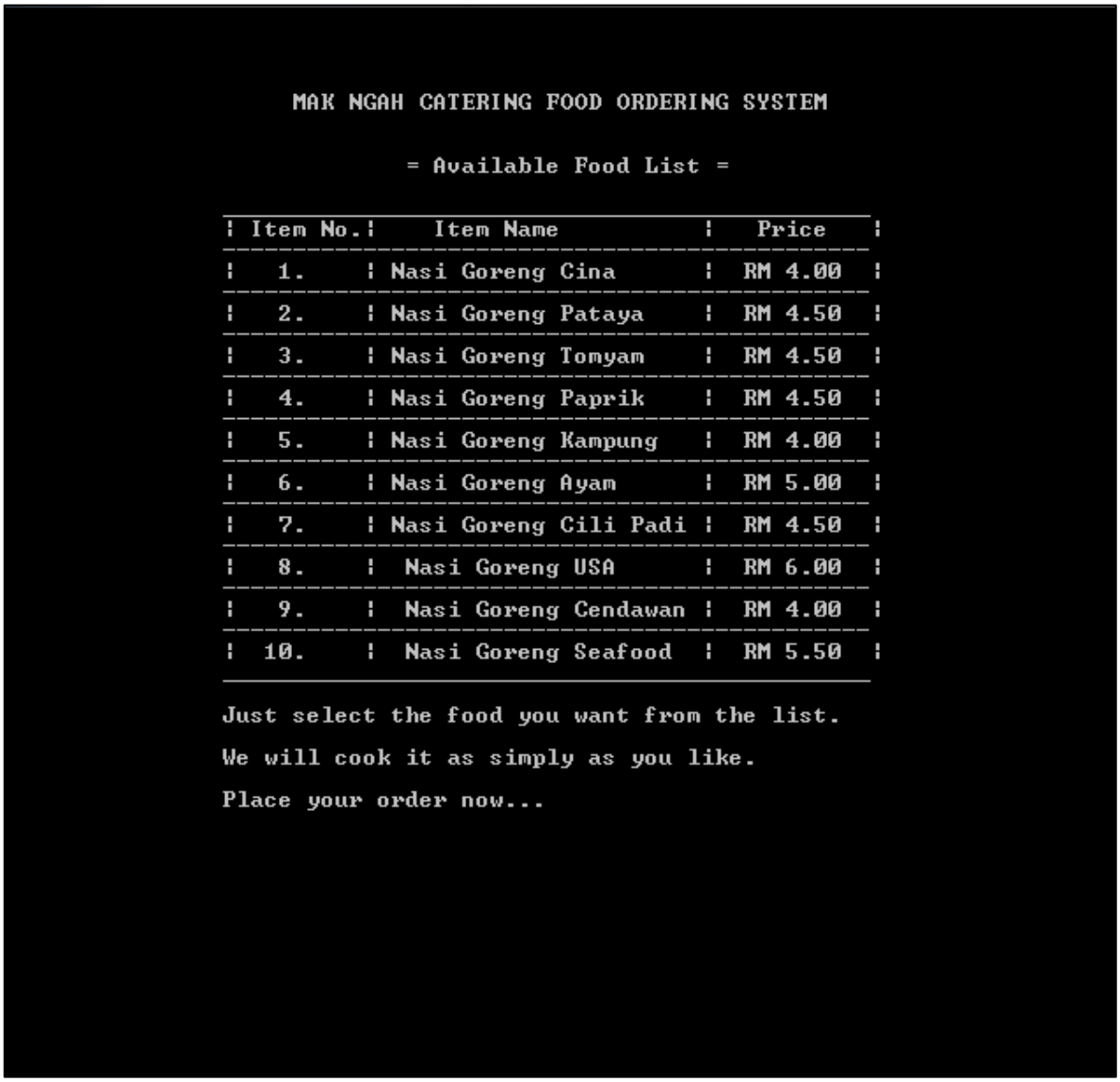
The following figure shows an interface for Mak Ngah Catering Food Ordering System



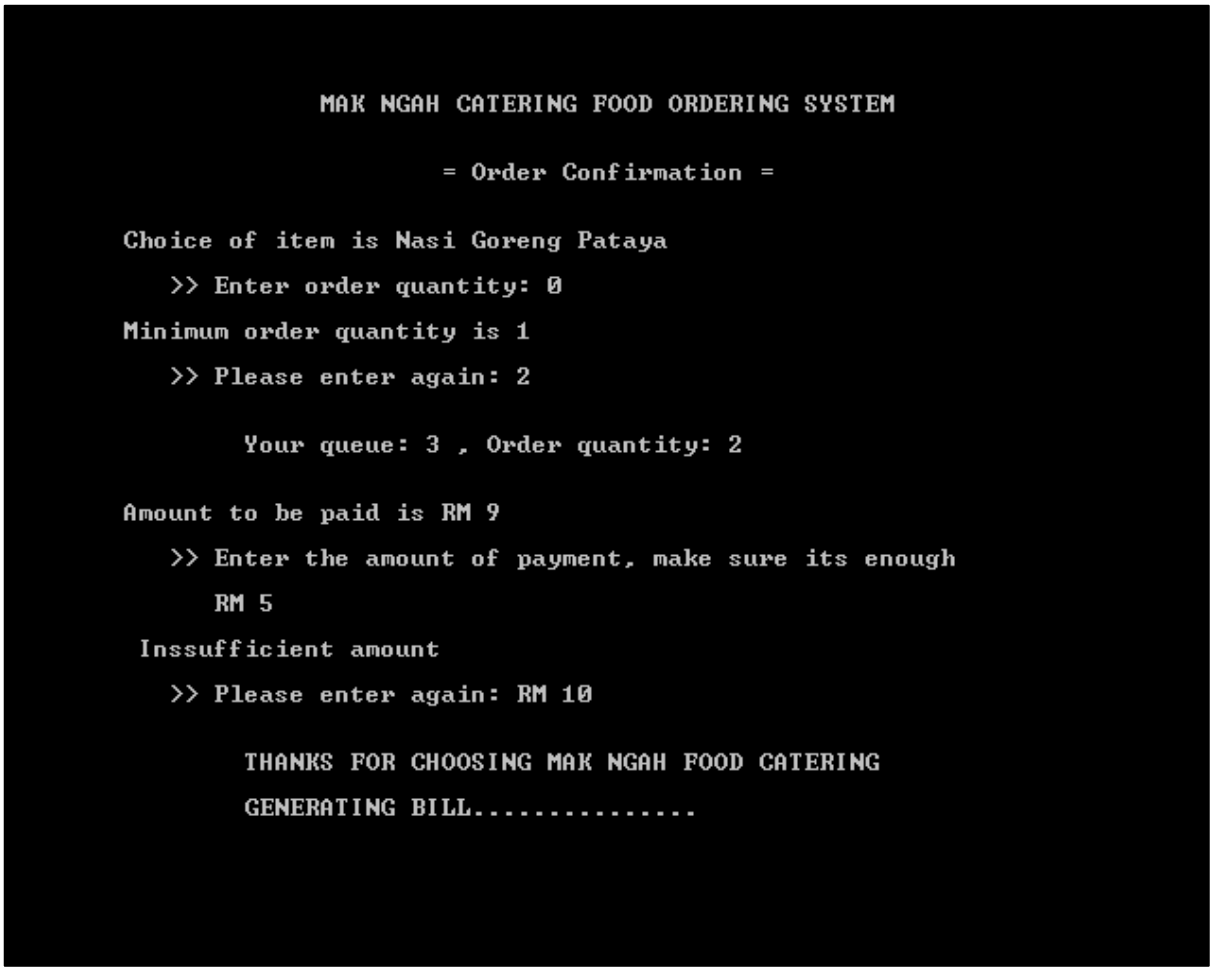
Screen 1: The user must insert and integer value in range 1-4. The user can insert integer 1, to search for food, integer 2 to make an order, integer number 4 to view their order queue and number 5 to exit the system. Both users can view the order queue but integer number 2, remove order is only valid for admin.



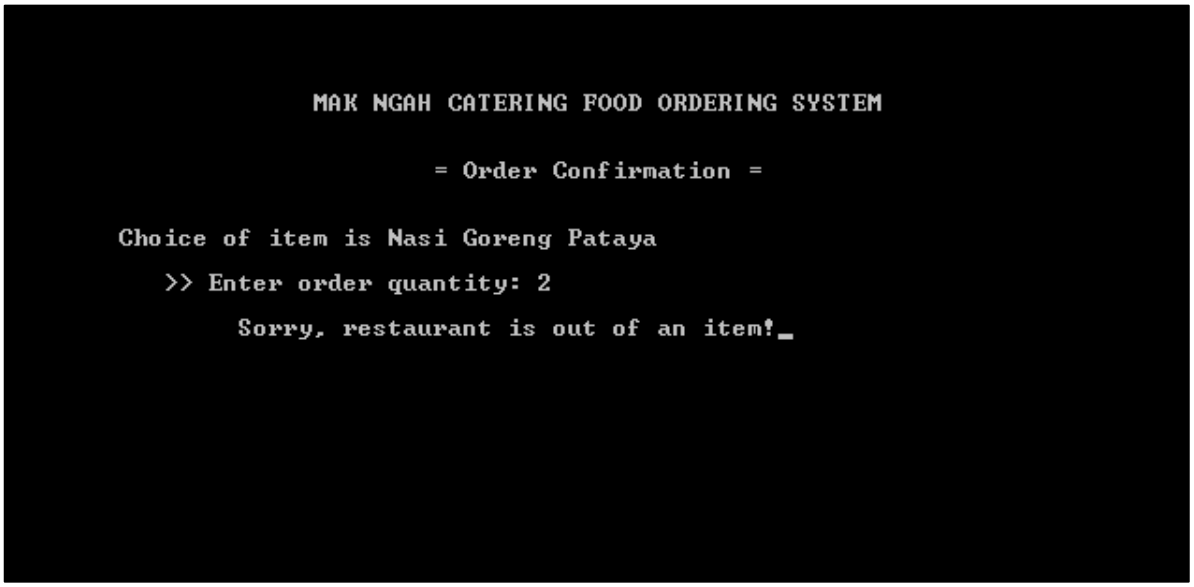
Screen 2: The user can search the food their craving for in the system food searching section. If the users enter a food that is available or not available on the Mak Ngah Catering food list, the system will prompt a message. The user needs to press any key to go to the main menu to make an order.



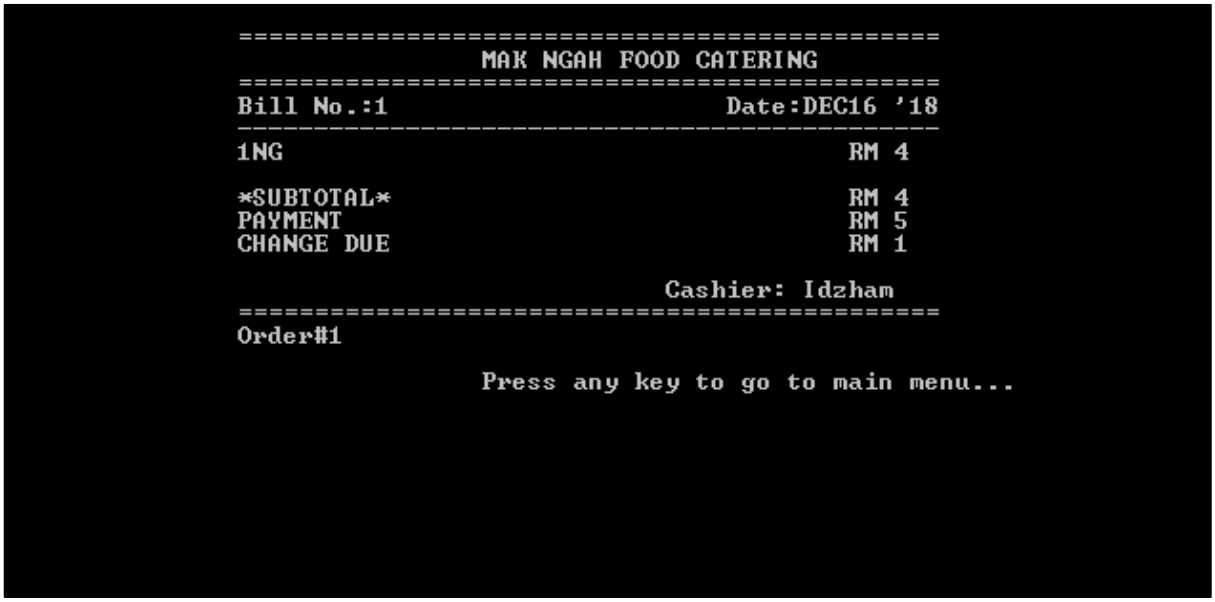
Screen 3: The user can order food based on the listed food list. The user must insert integer in range 1-10. If the user enters other number, the system will prompt an error message and the screen is displayed again.



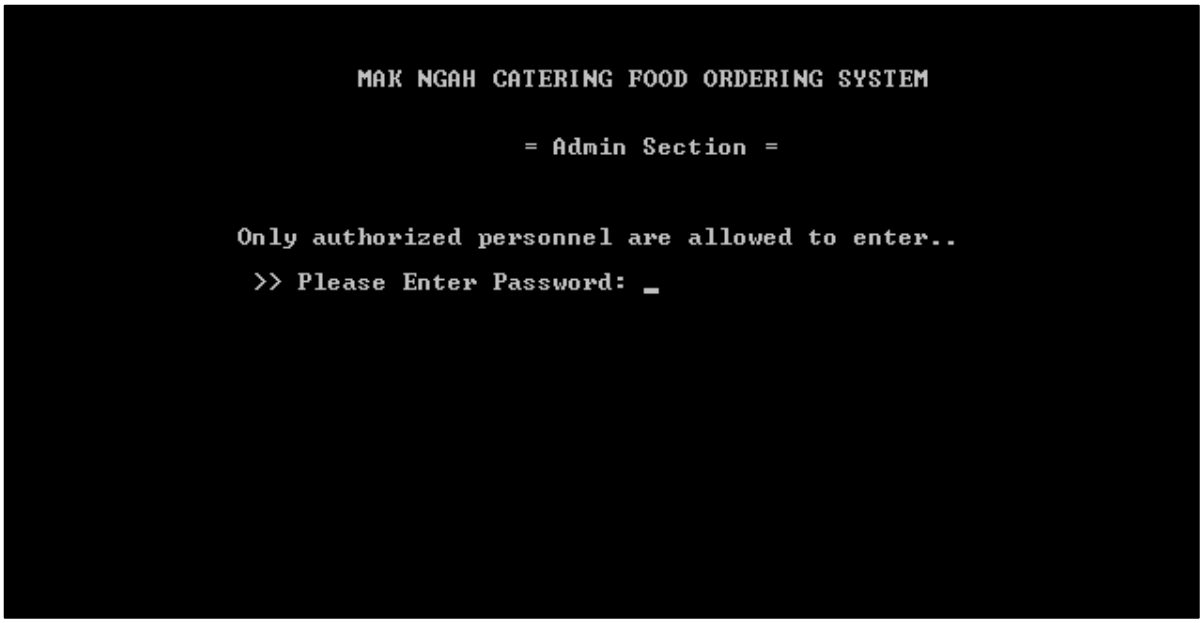
Screen 4: In order confirmation section, the user must insert a minimum order quantity which is one. If the user enters other number less than one, the system will prompt an error message and the screen is displayed again. When the order quantity has been inserted, the amount to be paid by user is displayed and the user needs to enter number not less than the total amount. If the user enters other number less than the total amount, the system will prompt an error message and the screen is displayed again. After all the information has been inserted, the system will generate a bill for the user.



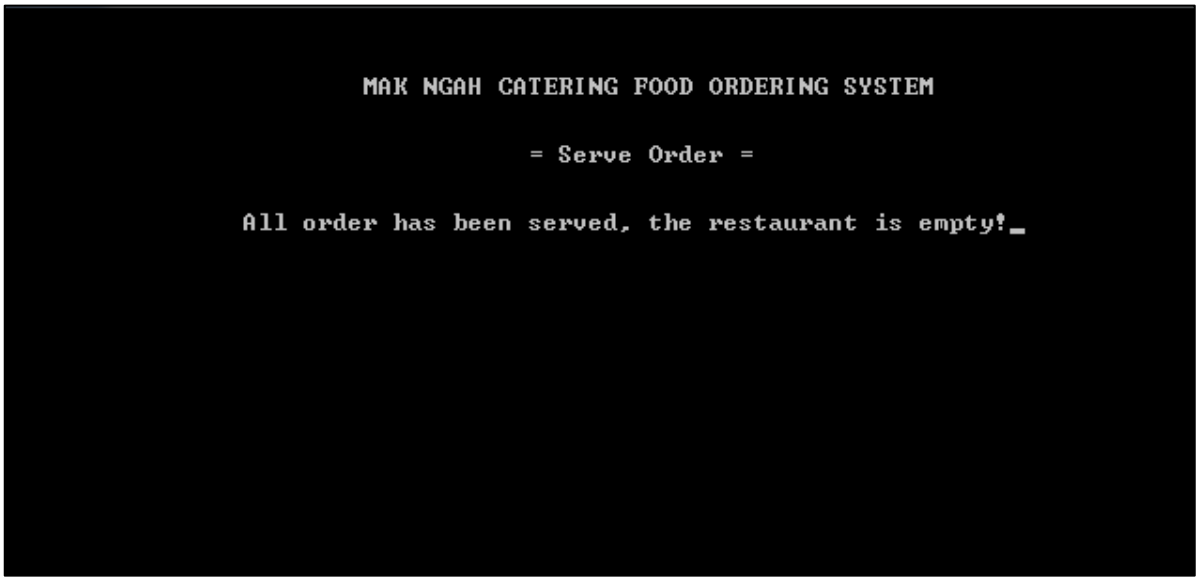
Screen 5: In order confirmation section, if the order has reached the maximum size, the system will prompt and error message and the user can't make an order. This means that the queue is full.



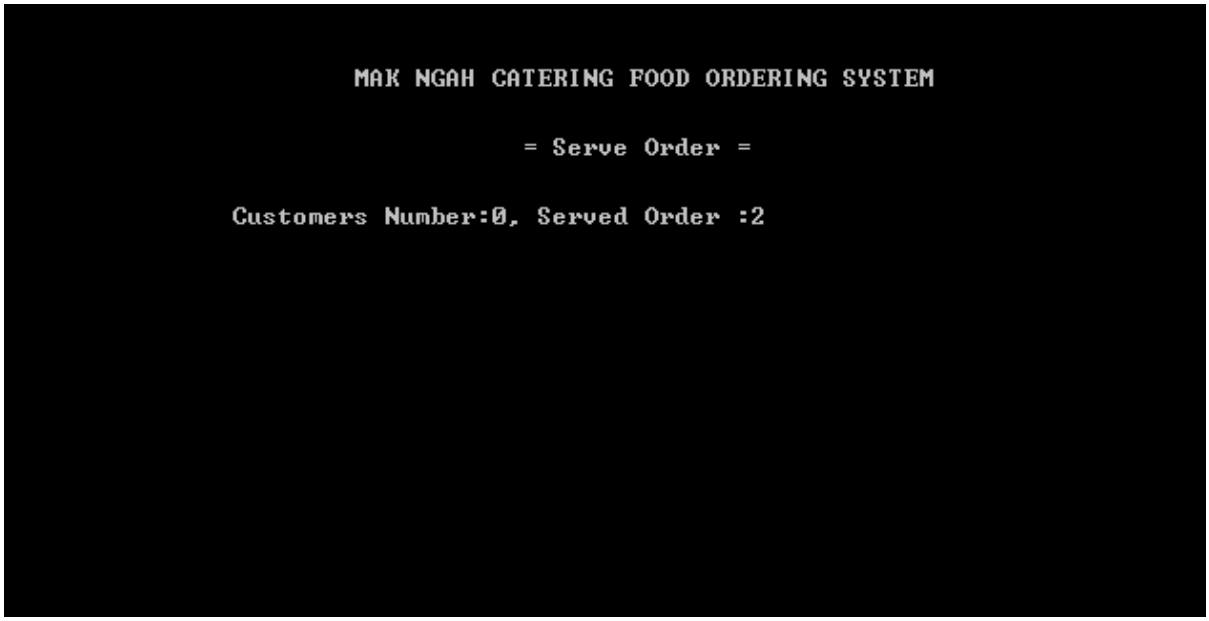
Screen 6: The user bill will be listing the payment that has been made by the user and their order number.



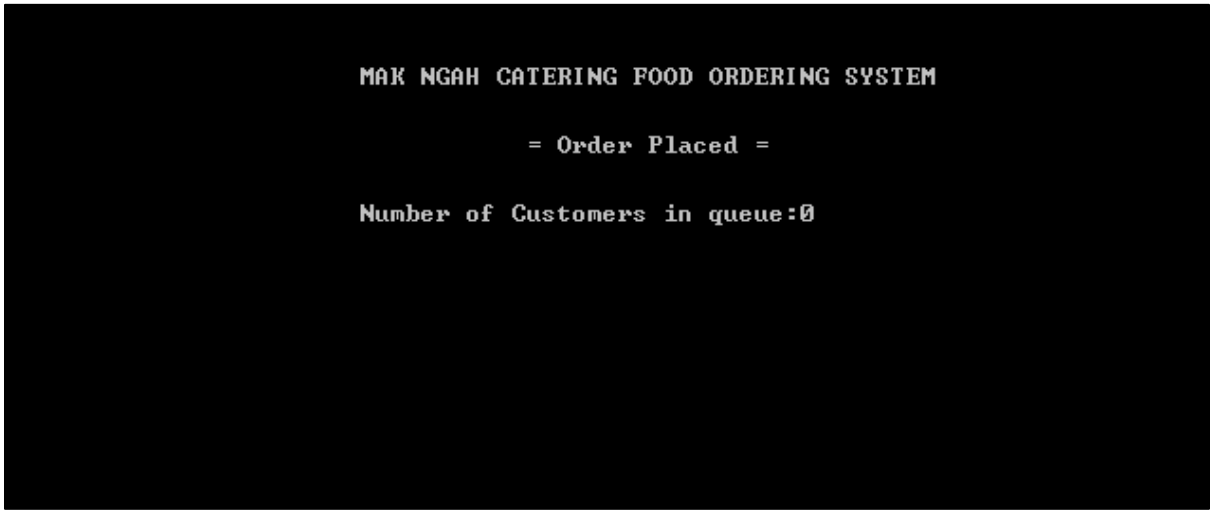
Screen 7: The remove order section is only for admin. If the admin enters passwords other than the valid password= 123, the system will prompt and error message.



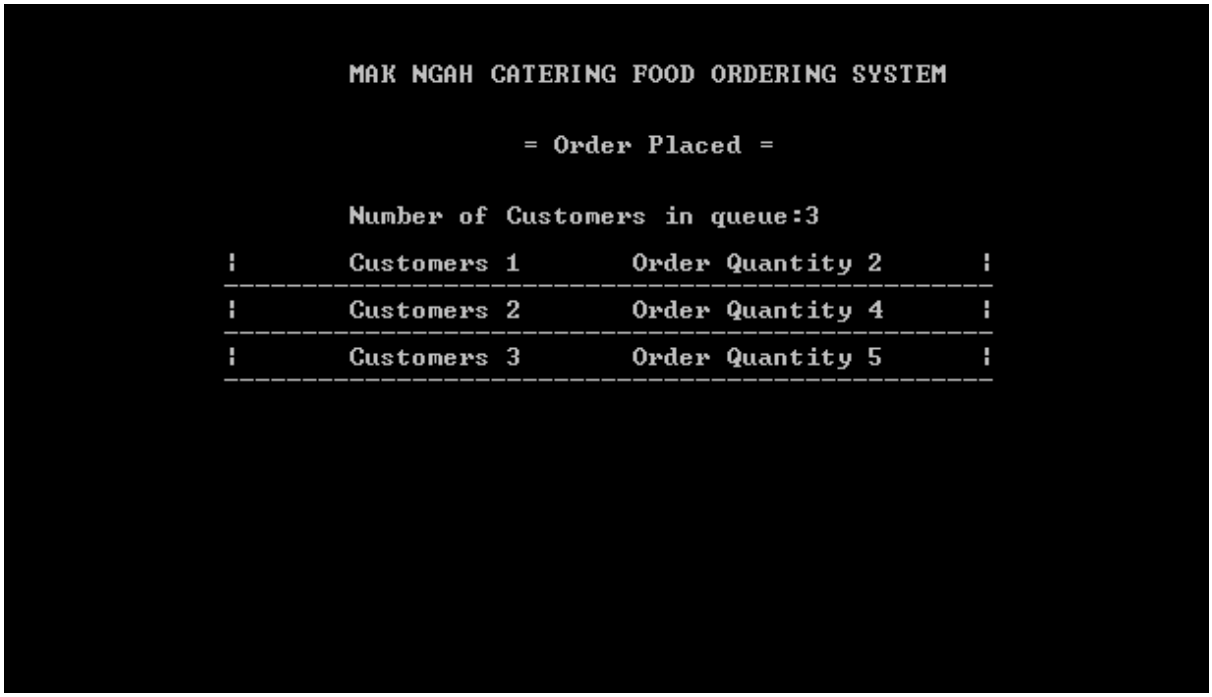
Screen 8: The serve order section will prompt and error message if all user order has been remove from the system. This means that the queue is empty.



Screen 9: in the serve order section, the system will prompt a message for the removed order. The customer that has been removed and the quantity of the food order.



Screen 10: in order placed section, the system will prompt a message for the number of customers in queue.



Screen 11: In order placed section, the system will displayed all the customers that are currently in queue. Both customer and admin can view this screen.

REFERENCES

1.0.1.1 http://www.academia.edu/4935972/ONLINE_ORDERING_SYSTEM_PROJECT_PROPOSAL

1.0.1.2 https://ordering4103.weebly.com/objectives.html

APPENDICES

APPENDIX A:

Main Source Code

```
#include <iostream>
#include <conio.h>
#include <stdlib.h>
#include <windows.h>
#include <string>

#include "Searching.hpp"
#include "Queue.hpp"

int main()
{
   int exit = 1;
   string c = "NG";
   Queue queue;
   food food;

   while (1)
   {
      cout << "\n\n\n\n\t\t\tMAK NGAH CATERING FOOD ORDERING SYSTEM";
      cout << "\n\n\n\t\t\t\t = Main Menu =";
      int option;
      cout << "\n\n\n";
      cout << "\n\t\t\t\t>> 1. Search Food" << endl;
      cout << "\n\t\t\t\t>> 2. Make Order" << endl;
      cout << "\n\t\t\t\t>> 3. Remove Order" << endl;
      cout << "\n\t\t\t\t>> 4. Instant Order Preview" << endl;
      cout << "\n\t\t\t\t>> 5. Exit" << endl;
      cout << "\n\n\t\t\t\t";
      cout << "Enter yor choice:";
               cin >> option;
      switch (option)
      {
         case 1:
            system("cls");
            food.printArray();
            break;

         case 2:
            system("cls");
            queue.enqueue();
            break;

         case 3:
            system("cls");
            cout << "\n\n\n\t\t\tMAK NGAH CATERING FOOD ORDERING SYSTEM ";
            cout << "\n\n\n\t\t\t\t = Admin Section =";
            int password;
            cout << "\n\n\n\n\t\tOnly authorized personnel are allowed to enter..";
            cout << "\n\n\t\t >> Please Enter Password: ";
            cin >> password;
```

```
            if (password == 123)
            {
               queue.dequeue();
            }
            else
            {
               cout << "\n\n\t\tAccess  denied";
               cout << "\n\n\t\t\t\tPress  any key to go to main  menu...";
               getch();
               system("cls");
            }
            break;

         case 4:
            system("cls");
            queue.display();
            break;

         case 5:
            system("cls");
            return 0;
            break;


         default:
            system("cls");
            exit = 0;
            break;
      }
   }
}
```

APPENDIX B:

Searching Source Code

```
#ifndef SEARCHING_H
#define SEARCHING_H

using namespace std;

void sortArray(char* [], int);
int binarySearch(char* [], int, string);
const int FOOD_NAMES = 10;
void printArray();

class food
{
   char* name[10];

public:
   void printArray()
   {

      char* name[] = { "nasi goreng kampung", "nasi goreng tomyam", "nasi goreng usa",
         "nasi goreng paprik", "nasi goreng cina", "nasi goreng pataya", "nasi goreng cili
padi",
         "nasi goreng ayam", "nasi goreng cendawan", "nasi goreng seafood" };

      string foodName;
      int results;
      cout << "\n\n\n\t\t\tMAK NGAH CATERING FOOD ORDERING SYSTEM ";
      cout << "\n\n\n\t\t\t\t = Food Searching =";
      cout << "\n\n\n\t\tFind the exact Nasi Goreng you're craving.\n\t\t(Hint: Type all the
sentences "
           "in lowercase)";
      cin.ignore();
      cout << "\n\n\t\t";
      getline(cin, foodName);

      sortArray(name, FOOD_NAMES);

      results = binarySearch(name, FOOD_NAMES, foodName);

      if (results == -1)
      {
         cout << "\n\t\tSorry, we don't have that today.\n";
         cout << "\n\t\t-----------------------------------------";
         cout << " \n\t\tPress any key to go to main menu...";
         getch();
         system("cls");
      }
      else
      {
         cout << "\n\t\t-----------------------------------------";
         cout << "\n\t\tThe " << foodName << " is currently available...";
```

```
        cout << " \n\t\tTo order the food, press any key to go to main menu...";
        cout << " \n\t\tPrices of the food may vary.";
        getch();
        system("cls");
    }
}
void sortArray(char* string[], int FOOD_NAMES)
{

    int pass, i;
    char* temp;

    for (pass = 0; pass < FOOD_NAMES - 1; pass++)
    {
        for (i = 0; i < FOOD_NAMES - 1; i++)
        {
            if (strcmp(string[i], string[i + 1]) > 0)
            {
                temp = string[i];
                string[i] = string[i + 1];
                string[i + 1] = temp;
            }
        }
    }
}

int binarySearch(char* food[], int FOOD_NAMES, string value)
{
    int first = 0, last = FOOD_NAMES - 1, middle;
    int index = -1;
    bool found = false;

    while (!found && first <= last)
    {
        middle = (first + last) / 2;
        if (food[middle] == value)
        {
            found = true;
            index = middle;
        }
        else if (food[middle] > value)
            last = middle - 1;
        else
            first = middle + 1;
    }
    return index;
}
};

#endif
```

APPENDIX C:

Queue Source Code

```
#ifndef QUEUE_H
#define QUEUE_H

#define MAX_SIZE 5
using namespace std;

class Queue {
   int arr_queue[MAX_SIZE];
   int rear, front, bill;

   public:
      Queue() {
         rear = 0;
         front = 0;
         bill = 0;
      }
   void enqueue() {
      cout << "\n\n\n\n\t\t      MAK NGAH CATERING FOOD ORDERING SYSTEM";
      cout << "\n\n\n\t\t\t      = Available Food List =";
      int food;
      cout << "\n\n\t\t_____________________________________________________";
      cout << "\n\t\t|  Item No.|    Item Name         |   Price   |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    1.    | Nasi Goreng Cina     |  RM 4.00  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    2.    | Nasi Goreng Pataya   |  RM 4.50  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    3.    | Nasi Goreng Tomyam   |  RM 4.50  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    4.    | Nasi Goreng Paprik   |  RM 4.50  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    5.    | Nasi Goreng Kampung  |  RM 4.00  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    6.    | Nasi Goreng Ayam     |  RM 5.00  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    7.    | Nasi Goreng Cili Padi |  RM 4.50  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    8.    |  Nasi Goreng USA     |  RM 6.00  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|    9.    |  Nasi Goreng Cendawan |  RM 4.00  |";
      cout << "\n\t\t-----------------------------------------";
      cout << "\n\t\t|   10.    |  Nasi Goreng Seafood  |  RM 5.50  |";
      cout << "\n\t\t_____________________________________________________";
      cout << "\n\n\t\tJust select the food you want from the list.";
      cout << "\n\n\t\tWe will cook it as simply as you like.";
      cout << "\n\n\t\tPlace your order now...";
      cout << "\n\n\t\t";
      cin >> food;
      if (food < 1 || food > 10) {
         cout << "\n\t\tInvaild order!\n" <<
```

```
            "\n\t\tOrder must be item from the list.\n";
        cout << "\n\t\tPlace your order again...";
        cout << "\n\n\t\t";
        cin >> food;
    }
    int order, money, total;

    if (food == 1) {
        system("cls");
        cout << "\n\n\n\n\t\t      MAK NGAH CATERING FOOD ORDERING SYSTEM";
        cout << "\n\n\n\t\t\t      = Order Confirmation =";
        cout << "\n\n\n\tChoice of food is Nasi Goreng Cina";
        cout << "\n\n\t    >> Enter order quantity: ";
        cin >> order;
        if (order < 1) {
            cout << "\n\tMinimum order quantity is 1";
            cout << "\n\n\t    >> Please enter again: ";
            cin >> order;
        }
        if (rear == MAX_SIZE - 1) {
            cout << "\n\tSorry, restaurant is out of an item!";
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
            arr_queue[rear++] = order;

            total = 4.00 * order;
            cout << "\n\n\n\tAmount to be paid is RM " << total;
            cout << "\n\n\t    >> Enter the amount of payment, make sure its enough";
            cout << "\n\n\t       RM ";
            cin >> money;
            if (money < total) {
                cout << "\n\t Inssufficient amount";
                cout << "\n\n\t    >> Please enter again: RM ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING BILL";
        for (int a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t               MAK NGAH FOOD CATERING        ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill No.:" << bill + 1 << "\t\tDate:DEC16 '18";
        cout << "\n\t\t------------------------------------------";
```

```
        cout << "\n\t\t"  << order << "NG" <<
           "\t\t\t\tRM  " << total;
        cout << "\n\n\t\t*SUBTOTAL*"  <<
           "\t\t\t\tRM  " << total;
        cout << "\n\t\tPAYMENT\t\t\t\tRM  " << money;
        cout << "\n\t\tCHANGE  DUE\t\t\t\tRM  " << money  - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t     Cashier: Idzham ";
        cout << "\n\t\t=========================================";
        cout << "\n\t\tOrder#"  << bill  + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress  any key to go to main  menu...";
        getch();
        system("cls");
      } else if (food == 2) {
        system("cls");
        cout << "\n\n\n\n\t\t      MAK NGAH CATERING  FOOD ORDERING  SYSTEM";
        cout << "\n\n\n\t\t\t      = Order Confirmation  =";
        cout << "\n\n\n\tChoice  of item  is Nasi Goreng Pataya";
        cout << "\n\n\t    >> Enter  order quantity:  ";
        cin >> order;
        if (order < 1) {
           cout << "\n\tMinimum  order quantity  is 1";
           cout << "\n\n\t    >> Please enter again:  ";
           cin >> order;
        }
        if (rear == MAX_SIZE  - 1) {
           cout << "\n\tSorry,  restaurant  is out of an item!";
           getch();
           system("cls");
        } else {
           cout << "\n\n\t\tYour  queue: " << rear + 1 << " , Order quantity:  " << order;
           arr_queue[rear++]  = order;

           total = 4.50 * order;
           cout << "\n\n\n\tAmount  to be paid  is  RM " << total;
           cout << "\n\n\t    >> Enter  the amount  of payment,  make sure its enough";
           cout << "\n\n\t       RM ";
           cin >> money;
           if (money  < total)  {
              cout << "\n\t  Inssufficient  amount";
              cout << "\n\n\t    >> Please enter again:  RM ";
              cin >> money;
           }
        }
        cout << "\n\n\t\tTHANKS  FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING  BILL";
        for (int  a = 1; a < 8; a++) {
           Sleep(500);
           cout << "...";
        }
```

```
    system("cls");
    cout << "\n\t\t================================================";
    cout << "\n\t\t            MAK NGAH FOOD CATERING        ";
    cout << "\n\t\t================================================";
    cout << "\n\t\tBill No.:" << bill + 1 << "\t\t\tDate:DEC16 '18";
    cout << "\n\t\t------------------------------------------------";
    cout << "\n\t\t" << order << "NG" <<
      "\t\t\t\t\tRM " << total;
    cout << "\n\n\t\t*SUBTOTAL*" <<
      "\t\t\t\tRM " << total;
    cout << "\n\t\tPAYMENT\t\t\t\tRM " << money;
    cout << "\n\t\tCHANGE DUE\t\t\tRM " << money - total;
    cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t    Cashier: Idzham ";
    cout << "\n\t\t================================================";
    cout << "\n\t\tOrder#" << bill + 1;
    bill++;
    cout << "\n\n\t\t\t\tPress any key to go to main menu...";
    getch();
    system("cls");
  } else if (food == 3) {
    system("cls");
    cout << "\n\n\n\n\t\t    MAK NGAH CATERING FOOD ORDERING SYSTEM";
    cout << "\n\n\n\t\t\t    = Order Confirmation =";
    cout << "\n\n\n\tChoice of item is Nasi Goreng Tomyam";
    cout << "\n\n\t   >> Enter order quantity: ";
    cin >> order;
    if (order < 1) {
      cout << "\n\tMinimum order quantity is 1";
      cout << "\n\n\t   >> Please enter again: ";
      cin >> order;
    }
    if (rear == MAX_SIZE - 1) {
      cout << "\n\tSorry, restaurant is out of an item!";
      getch();
      system("cls");
    } else {
      cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
      arr_queue[rear++] = order;

      total = 4.50 * order;
      cout << "\n\n\n\tAmount to be paid is RM " << total;
      cout << "\n\n\t   >> Enter the amount of payment, make sure its enough";
      cout << "\n\n\t      RM ";
      cin >> money;
      if (money < total) {
        cout << "\n\t Inssufficient amount";
        cout << "\n\n\t   >> Please enter again: RM ";
        cin >> money;
      }
    }
```

```
        cout << "\n\n\t\tTHANKS  FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING  BILL";
        for (int  a = 1; a < 8; a++) {
           Sleep(500);
           cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t              MAK  NGAH FOOD CATERING        ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill  No.:" << bill  + 1 << "\t\t\tDate:DEC16  '18";
        cout << "\n\t\t------------------------------------------";
        cout << "\n\t\t"  << order << "NG" <<
           "\t\t\t\t\tRM  " << total;
        cout << "\n\n\t\t*SUBTOTAL*"  <<
           "\t\t\t\tRM  " << total;
        cout << "\n\t\tPAYMENT\t\t\t\t\tRM  " << money;
        cout << "\n\t\tCHANGE  DUE\t\t\t\tRM  " << money  - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t\t     Cashier:  Idzham  ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tOrder#"  << bill  + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress  any key to go to main  menu...";
        getch();
        system("cls");
     } else if (food == 4) {
        system("cls");
        cout << "\n\n\n\n\t\t      MAK NGAH CATERING  FOOD ORDERING  SYSTEM";
        cout << "\n\n\n\t\t\t      = Order Confirmation  =";
        cout << "\n\n\n\tChoice  of item  is Nasi Goreng Paprik";
        cout << "\n\n\t    >> Enter  order quantity:  ";
        cin >> order;
        if (order < 1) {
           cout << "\n\tMinimum  order quantity  is 1";
           cout << "\n\n\t    >> Please  enter again:  ";
           cin >> order;
        }
        if (rear == MAX_SIZE  - 1) {
           cout << "\n\tSorry,  restaurant  is out of an item!";
           getch();
           system("cls");
        } else {
           cout << "\n\n\t\tYour  queue: " << rear + 1 << " , Order quantity:  " << order;
           arr_queue[rear++]  = order;

           total = 4.50 * order;
           cout << "\n\n\n\tAmount  to be paid  is  RM " << total;
           cout << "\n\n\t    >> Enter  the amount  of payment,  make sure  its enough";
           cout << "\n\n\t       RM ";
           cin >> money;
```

```
            if (money < total) {
                cout << "\n\t Inssufficient amount";
                cout << "\n\n\t    >> Please enter again: RM ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING BILL";
        for (int a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t              MAK NGAH FOOD CATERING       ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill No.:" << bill + 1 << "\t\tDate:DEC16 '18";
        cout << "\n\t\t------------------------------------------";
        cout << "\n\t\t" << order << "NG" <<
            "\t\t\t\tRM " << total;
        cout << "\n\n\t\t*SUBTOTAL*" <<
            "\t\t\tRM " << total;
        cout << "\n\t\tPAYMENT\t\t\t\tRM " << money;
        cout << "\n\t\tCHANGE DUE\t\t\tRM " << money - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t    Cashier: Idzham ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tOrder#" << bill + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress any key to go to main menu...";
        getch();
        system("cls");
    } else if (food == 5) {
        system("cls");
        cout << "\n\n\n\n\t\t    MAK NGAH CATERING FOOD ORDERING SYSTEM";
        cout << "\n\n\n\t\t\t    = Order Confirmation =";
        cout << "\n\n\n\tChoice of item is Nasi Goreng Kampung";
        cout << "\n\n\t    >> Enter order quantity: ";
        cin >> order;
        if (order < 1) {
            cout << "\n\tMinimum order quantity is 1";
            cout << "\n\n\t    >> Please enter again: ";
            cin >> order;
        }
        if (rear == MAX_SIZE - 1) {
            cout << "\n\tSorry, restaurant is out of an item!";
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
            arr_queue[rear++] = order;
```

```
            total = 4.00 * order;
            cout << "\n\n\n\tAmount to be paid is RM " << total;
            cout << "\n\n\t    >> Enter the amount of payment, make sure its enough";
            cout << "\n\n\t       RM ";
            cin >> money;
            if (money < total) {
               cout << "\n\t Inssufficient amount";
               cout << "\n\n\t    >> Please enter again: RM ";
               cin >> money;
            }
         }
         cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
         cout << "\n\n\t\tGENERATING BILL";
         for (int a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
         }
         system("cls");
         cout << "\n\t\t==========================================";
         cout << "\n\t\t              MAK NGAH FOOD CATERING      ";
         cout << "\n\t\t==========================================";
         cout << "\n\t\tBill No.:" << bill + 1 << "\t\tDate:DEC16 '18";
         cout << "\n\t\t------------------------------------------";
         cout << "\n\t\t" << order << "NG" <<
            "\t\t\t\tRM " << total;
         cout << "\n\n\t\t*SUBTOTAL*" <<
            "\t\t\tRM " << total;
         cout << "\n\t\tPAYMENT\t\t\t\tRM " << money;
         cout << "\n\t\tCHANGE DUE\t\t\tRM " << money - total;
         cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t\t    Cashier: Idzham ";
         cout << "\n\t\t==========================================";
         cout << "\n\t\tOrder#" << bill + 1;
         bill++;
         cout << "\n\n\t\t\t\tPress any key to go to main menu...";
         getch();
         system("cls");
      } else if (food == 6) {
         system("cls");
         cout << "\n\n\n\n\t\t      MAK NGAH CATERING FOOD ORDERING SYSTEM";
         cout << "\n\n\n\t\t\t      = Order Confirmation =";
         cout << "\n\n\n\tChoice of item is Nasi Goreng Ayam";
         cout << "\n\n\t    >> Enter order quantity: ";
         cin >> order;
         if (order < 1) {
            cout << "\n\tMinimum order quantity is 1";
            cout << "\n\n\t    >> Please enter again: ";
            cin >> order;
         }
         if (rear == MAX_SIZE - 1) {
            cout << "\n\tSorry, restaurant is out of an item!";
```

```
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
            arr_queue[rear++] = order;

            total = 5.00 * order;
            cout << "\n\n\n\tAmount to be paid is RM " << total;
            cout << "\n\n\t >> Enter the amount of payment, make sure its enough";
            cout << "\n\n\t RM ";
            cin >> money;
            if (money < total) {
                cout << "\n\t Inssufficient amount";
                cout << "\n\n\t >> Please enter again: RM ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING BILL";
        for (int a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t          MAK NGAH FOOD CATERING      ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill No.:" << bill + 1 << "\t\tDate:DEC16 '18";
        cout << "\n\t\t------------------------------------------";
        cout << "\n\t\t" << order << "NG" <<
            "\t\t\t\tRM " << total;
        cout << "\n\n\t\t*SUBTOTAL*" <<
            "\t\t\tRM " << total;
        cout << "\n\t\tPAYMENT\t\t\t\tRM " << money;
        cout << "\n\t\tCHANGE DUE\t\t\tRM " << money - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t Cashier: Idzham ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tOrder#" << bill + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress any key to go to main menu...";
        getch();
        system("cls");
    } else if (food == 7) {
        system("cls");
        cout << "\n\n\n\n\t\t MAK NGAH CATERING FOOD ORDERING SYSTEM";
        cout << "\n\n\n\t\t\t = Order Confirmation =";
        cout << "\n\n\n\tChoice of item is Nasi Goreng Cili Padi";
        cout << "\n\n\t >> Enter order quantity: ";
        cin >> order;
        if (order < 1) {
```

```
            cout << "\n\tMinimum  order quantity  is 1";
            cout << "\n\n\t    >> Please enter again:  ";
            cin >> order;
        }
        if (rear == MAX_SIZE  - 1) {
            cout << "\n\tSorry,  restaurant  is out of an item!";
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour  queue: " << rear + 1 << " , Order quantity:  " << order;
            arr_queue[rear++]  = order;

            total = 4.50 * order;
            cout << "\n\n\n\tAmount  to be paid  is  RM " << total;
            cout << "\n\n\t    >> Enter  the amount  of payment,  make sure its enough";
            cout << "\n\n\t       RM ";
            cin >> money;
            if (money  < total)  {
                cout << "\n\t  Inssufficient  amount";
                cout << "\n\n\t    >> Please enter again:  RM ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS  FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING  BILL";
        for (int  a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t              MAK  NGAH FOOD CATERING        ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill  No.:" << bill  + 1 << "\t\tDate:DEC16  '18";
        cout << "\n\t\t------------------------------------------";
        cout << "\n\t\t"  << order << "NG" <<
            "\t\t\t\tRM  " << total;
        cout << "\n\n\t\t*SUBTOTAL*"  <<
            "\t\t\t\tRM  " << total;
        cout << "\n\t\tPAYMENT\t\t\t\tRM  " << money;
        cout << "\n\t\tCHANGE  DUE\t\t\tRM  " << money  - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t\t     Cashier:  Idzham  ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tOrder#"  << bill  + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress  any key to go to main  menu...";
        getch();
        system("cls");
    } else if (food == 8) {
        system("cls");
```

```
cout << "\n\n\n\n\t\t      MAK NGAH CATERING FOOD ORDERING SYSTEM";
cout << "\n\n\n\t\t\t      = Order Confirmation =";
cout << "\n\n\n\tChoice of item is Nasi Goreng USA";
cout << "\n\n\t    >> Enter order quantity: ";
cin >> order;
if (order < 1) {
   cout << "\n\tMinimum order quantity is 1";
   cout << "\n\n\t    >> Please enter again: ";
   cin >> order;
}
if (rear == MAX_SIZE - 1) {
   cout << "\n\tSorry, restaurant is out of an item!";
   getch();
   system("cls");
} else {
   cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
   arr_queue[rear++] = order;

   total = 6.00 * order;
   cout << "\n\n\n\tAmount to be paid is RM " << total;
   cout << "\n\n\t    >> Enter the amount of payment, make sure its enough";
   cout << "\n\n\t       RM ";
   cin >> money;
   if (money < total) {
      cout << "\n\t Inssufficient amount";
      cout << "\n\n\t    >> Please enter again: RM ";
      cin >> money;
   }
}
cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
cout << "\n\n\t\tGENERATING BILL";
for (int a = 1; a < 8; a++) {
   Sleep(500);
   cout << "...";
}
system("cls");
cout << "\n\t\t=============================================";
cout << "\n\t\t                  MAK NGAH FOOD CATERING        ";
cout << "\n\t\t=============================================";
cout << "\n\t\tBill No.:" << bill + 1 << "\t\t\tDate:DEC16 '18";
cout << "\n\t\t---------------------------------------------";
cout << "\n\t\t" << order << "NG" <<
   "\t\t\t\t\tRM " << total;
cout << "\n\n\t\t*SUBTOTAL*" <<
   "\t\t\t\tRM " << total;
cout << "\n\t\tPAYMENT\t\t\t\t\tRM " << money;
cout << "\n\t\tCHANGE DUE\t\t\t\tRM " << money - total;
cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t     Cashier: Idzham ";
cout << "\n\t\t=============================================";
cout << "\n\t\tOrder#" << bill + 1;
```

```
        bill++;
        cout << "\n\n\t\t\t\tPress any key to go to main menu...";
        getch();
        system("cls");
    } else if (food == 9) {
        system("cls");
        cout << "\n\n\n\n\t\t     MAK NGAH CATERING FOOD ORDERING SYSTEM";
        cout << "\n\n\n\t\t\t     = Order Confirmation =";
        cout << "\n\n\n\tChoice of item is Nasi Goreng Cendawan";
        cout << "\n\n\t   >> Enter order quantity: ";
        cin >> order;
        if (order < 1) {
            cout << "\n\tMinimum order quantity is 1";
            cout << "\n\n\t   >> Please enter again: ";
            cin >> order;
        }
        if (rear == MAX_SIZE - 1) {
            cout << "\n\tSorry, restaurant is out of an item!";
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour queue: " << rear + 1 << " , Order quantity: " << order;
            arr_queue[rear++] = order;

            total = 4.00 * order;
            cout << "\n\n\n\tAmount to be paid is RM " << total;
            cout << "\n\n\t   >> Enter the amount of payment, make sure its enough";
            cout << "\n\n\t      RM ";
            cin >> money;
            if (money < total) {
                cout << "\n\t Inssufficient amount";
                cout << "\n\n\t   >> Please enter again: RM ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING BILL";
        for (int a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t==========================================";
        cout << "\n\t\t              MAK NGAH FOOD CATERING       ";
        cout << "\n\t\t==========================================";
        cout << "\n\t\tBill No.:" << bill + 1 << "\t\tDate:DEC16 '18";
        cout << "\n\t\t------------------------------------------";
        cout << "\n\t\t" << order << "NG" <<
            "\t\t\t\tRM " << total;
        cout << "\n\n\t\t*SUBTOTAL*" <<
```

```
            "\t\t\t\tRM  " << total;
        cout << "\n\t\tPAYMENT\t\t\t\t\tRM  " << money;
        cout << "\n\t\tCHANGE  DUE\t\t\t\tRM  " << money - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t\t     Cashier:  Idzham  ";
        cout << "\n\t\t=================================================";
        cout << "\n\t\tOrder#"  << bill  + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress  any key to go to main menu...";
        getch();
        system("cls");
    } else if (food == 10) {
        system("cls");
        cout << "\n\n\n\n\t\t      MAK NGAH CATERING  FOOD ORDERING  SYSTEM";
        cout << "\n\n\n\t\t\t      = Order Confirmation  =";
        cout << "\n\n\n\tChoice  of item  is Nasi Goreng  Seafood";
        cout << "\n\n\t    >> Enter  order quantity:  ";
        cin >> order;
        if (order < 1) {
            cout << "\n\tMinimum  order quantity  is 1";
            cout << "\n\n\t    >> Please  enter  again:  ";
            cin >> order;
        }
        if (rear == MAX_SIZE  - 1) {
            cout << "\n\tSorry,  restaurant  is out of an item!";
            getch();
            system("cls");
        } else {
            cout << "\n\n\t\tYour  queue: " << rear + 1 << " , Order quantity:  " << order;
            arr_queue[rear++]  = order;

            total = 5.50 * order;
            cout << "\n\n\n\tAmount  to be paid  is  RM " << total;
            cout << "\n\n\t    >> Enter  the amount  of payment,  make sure its enough";
            cout << "\n\n\t       RM  ";
            cin >> money;
            if (money  < total)  {
                cout << "\n\t  Inssufficient  amount";
                cout << "\n\n\t    >> Please  enter  again:  RM  ";
                cin >> money;
            }
        }
        cout << "\n\n\t\tTHANKS  FOR CHOOSING MAK NGAH FOOD CATERING";
        cout << "\n\n\t\tGENERATING  BILL";
        for (int  a = 1; a < 8; a++) {
            Sleep(500);
            cout << "...";
        }
        system("cls");
        cout << "\n\t\t=================================================";
        cout << "\n\t\t                 MAK NGAH FOOD CATERING         ";
```

```
        cout << "\n\t\t=========================================";
        cout << "\n\t\tBill No.:" << bill + 1 << "\t\t\tDate:DEC16 '18";
        cout << "\n\t\t-----------------------------------------";
        cout << "\n\t\t" << order << "NG" <<
           "\t\t\t\tRM " << total;
        cout << "\n\n\t\t*SUBTOTAL*" <<
           "\t\t\t\tRM " << total;
        cout << "\n\t\tPAYMENT\t\t\t\tRM " << money;
        cout << "\n\t\tCHANGE DUE\t\t\t\tRM " << money - total;
        cout << "\n\t\t\t\t\t\t\t\t\t\t\t\t\t Cashier: Idzham ";
        cout << "\n\t\t=========================================";
        cout << "\n\t\tOrder#" << bill + 1;
        bill++;
        cout << "\n\n\t\t\t\tPress any key to go to main menu...";
        getch();
        system("cls");
      }
   }

   void dequeue() {
      system("cls");
      cout << "\n\n\n\t\t\tMAK NGAH CATERING FOOD ORDERING SYSTEM ";
      cout << "\n\n\n\t\t\t\t = Serve Order =";
      if (front == rear) {
         cout << "\n\n\n\t\tAll order has been served, the restaurant is empty!";
         getch();
         system("cls");
      } else {
         cout << "\n\n\n\t\tCustomers Number:" << front <<
            ", Served Order :" << arr_queue[front];
         front++;
         getch();
         system("cls");
      }
   }

   void display() {
      system("cls");
      cout << "\n\n\n\t\t\tMAK NGAH CATERING FOOD ORDERING SYSTEM ";
      cout << "\n\n\n\t\t\t\t = Order Placed =";
      int i;
      cout << "\n\n\n\t\tNumber of Customers in queue:" << (rear - front) << "\n";
      for (i = front; i < rear; i++)
         cout << "\n\t\t|\tCustomers " << i << "\t Order Quantity " << arr_queue[i] <<
         "\t| \n\t\t-----------------------------------------";
      getch();
      system("cls");
   }
};
#endif
```