Task-1

Write a C program to input a character from the user and check whether the given character is a small alphabet, capital alphabet, digit or special character, using if else.

Task-2

There are 2 wolves and 1 sheep in a line. Both wolves will attempt to eat the sheep. You are supposed to find out which wolf will reach the sheep and eat it, assuming both wolves move at the same speed and the sheep does not move. Take as input the positions of wolf A, wolf B and the sheep on the line (x-coordinate) and find out which wolf will reach the sheep first and eat it.

If Wolf A reaches the sheep first, print “Wolf A”

If Wolf B reaches the sheep first, print “Wolf B”

If both wolves reach the sheep at the same time, the wolves will get distracted and fail to eat the sheep, so print “Wolves distracted, Sheep escaped”

Example: Wolf A pos = 3, Wolf B pos = 7, Sheep pos = 4. Wolf A will reach the sheep quicker than Wolf B so it will eat the sheep, program should print “Wolf A”.

Task-3

An online shopping store is providing discounts on the items due to the Eid. If the cost of items is more than 1999 it will give a discount upto 50%. If the cost of shopping is 2000 to 4000, a 20% discount will be applied. If the cost of shopping is 4001 to 6000, a 30% discount will be applied. If it's more than 6000 then 50% discount will be applied to the cost of shopping. Print the actual amount, saved amount and the amount after discount.

Task-4

Write a program in which user enters his NTS and F.Sc marks and your program will help student in selection of university. Based on these marks Student will be allocated a seat at different department of different university.

- Oxford University
  - IT: Above 70% in Fsc. and 70 % in NTS
  - Electronics: Above 70% in Fsc. and 60 % in NTS
  - Telecommunication Above 70% in Fsc. and 50 % in NTS

- MIT

  IT: 70% - 60 % in Fsc. and 50 % in NTS
  Chemical: 59% – 50 % in Fsc. and 50 % in NTS
  Computer: Above 40% and below 50 % in Fsc. and 50 % in NTS

Task-5

Write a program to control a coffee machine. Allow the user to input the type of coffee as B for Black and W for White. Ask the user if the cup size is double and if the coffee is manual. The following table details the time chart for the machine for each coffee type. Display a statement for each step. If the coffee size is double, increase the baking time by 50 percent. Use functions to display instructions to the user and to compute the coffee time.

Operation	White Coffee	Black Coffee
Put Water	15 mins	20 mins
Sugar	15 mins	20 mins
Mix Well	20 mins	25 mins
Add Coffee	2 mins	15 mins
Add Milk	4 mins	-
Mix Well	20mins	25 mins

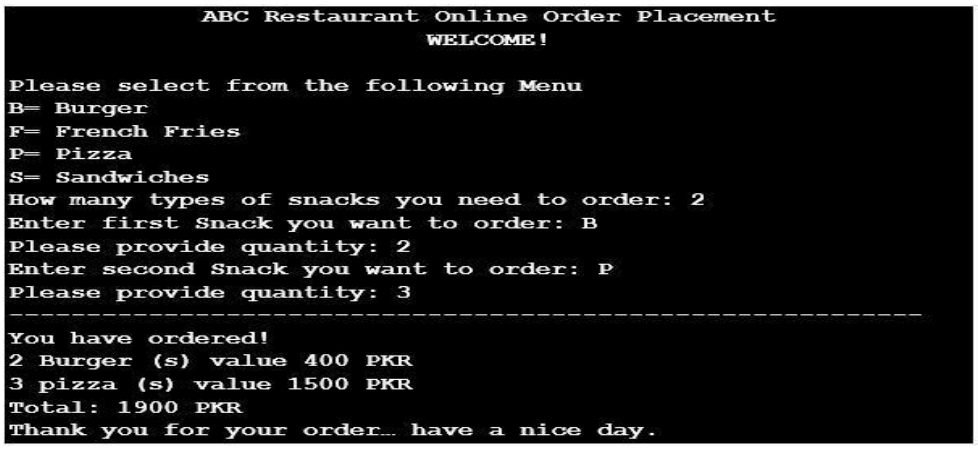
Note: Use switch structure to solve this problem.

Task-6

Using IF and Switch statement, write a program that displays the following menu for the food items available to take order from the customer:

- B= Burger (Rs. 200)
- F= French Fries (Rs. 50)
- P= Pizza (Rs. 500)
- S= Sandwiches (Rs. 150)

The costumer can order any combination of available food. The program first ask to enter the no of types of snacks i.e. 2, 3 or 4 then it ask to enter the choice i.e. B for Burger and then for quantity. The program should finally display the total charges for the order.



Task-7

Mortgage Calculator) Develop a C program to calculate the interest accrued on a bank customer's mortgage. For each customer, the following facts are available:

a) the account number
b) the mortgage amount
c) the mortgage term
d) the interest rate

The program should input each fact, calculate the total interest payable (= mortgage amount × interest rate × mortgage term), and add it to the mortgage amount to get the total amount payable. It should calculate the required monthly payment by dividing the total amount payable by the number of months in the mortgage term. The program should display the required monthly payment rounded off to the nearest dollar. The program should process each customer's account at a time. Here is a sample input/ output dialog:

Enter account number (-1 to end): 100
Enter mortgage amount (in dollars): 6500
Enter mortgage term (in years): 3
Enter interest rate (as a decimal): 0.075
The monthly payable interest $ 221

Enter account number (-1 to end): 200
Enter mortgage amount (in dollars): 12000
Enter mortgage term (in years): 10
Enter interest rate (as a decimal): 0.045
The monthly payable interest is: $ 145

Enter account number (-1 to end): -1