**LAB TASK 04**

1. Write a C program to check whether a number is multiple of 3 or not. If it is then print “This number is multiple of 3”, otherwise print “This number is not multiple of 3”.

**SOLUTION**

#include <stdio.h>

int main (){

int num ;

printf ("Enter a number to check if its multiple of 3\n");

scanf ("%d " , &num);

num%=3;

if (num==0){

printf("This number is multiple of 3");

}

else {

printf("This number is not a multiple of 3");

}

}

2. Write a C program which asks the user for an input (any number) and only accepts numbers that are (positive, multiple of 2 and divisible by 10). Any other number should be discarded (Write the condition in a single statement no nesting)

**SOLUTION**

#include <stdio.h>

int main (){

int num ;

printf ("Enter a number \n(only if it is positive , multiple of 2 and divisible by 10)\n");

scanf ("%d " , &num);

if ((num>=0) && (num%10==0)){

printf("Valid input");

}

else {

printf("Invalid Input");

}

}

3. Create a calculator asking for operator (+ or – or \* or /) and operands and performs calculation according to the user input using switch statement.

**SOLUTION**

#include <stdio.h>

int main (){

float a, b ; char op ;

printf ("\tCALCULATOR \nEnter the problem in the format a+b or a/b \nUse add(+) , subtract(-) , product (\*) , divide (/) operator\n");

scanf(" %f %c %f ", &a , &op , &b);

switch (op){

case '+':

printf("%f + %f = %f ", a ,b , a+b); break ;

case '-':

printf("%f + %f = %f ", a ,b , a-b);break ;

case '\*':

printf("%f + %f = %f ", a ,b , a\*b); break ;

case '/':

printf("%f + %f = %f ", a ,b , a/b);break ;

default :

printf("Invalid Input");

}

}

4. 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.

**SOLUTION**

#include <stdio.h>

int main (){

char ch ; int chcode;

printf("Enter a charachter\n");

scanf(" %c ", &ch );

chcode = (int)ch;

if((chcode>=97) && (ch<=122)){

printf ("This is a small alphabet");

}

else if((chcode>=65) && (chcode<=90)){

printf ("This is a capital alphabet");

}

else if((chcode>=48) && (chcode<=57)){

printf ("This is a digit");

}

else if ( chcode>=32 && chcode<=47 ||

chcode>=58 && chcode<=64 ||

chcode>=91 && chcode<=96 ||

chcode>=123 && chcode<=126){

printf ("This is a special charachter");

}

}

5. An online shopping store is providing discounts on the items due to the Eid. If the cost of items is less than 2000 it will give a discount up to 5%. If the cost of shopping is 2000 to 4000, a 10% discount will be applied. If the cost of shopping is 4000 to 6000, a 20% discount will be applied. If it's more than 6000 then a 35% discount will be applied to the cost of shopping. Print the actual amount, saved amount and the amount after discount. The Minimum amount eligible for a discount is 500.

**SOLUTION**

#include <stdio.h>

int main (){

int cost , savedamount, savedpercent , discountedcost ;

printf("Enter the cost \n");

scanf(" %d ", &cost);

if(cost>=500){

if (cost<2000){

savedpercent=5;

}

if (cost>=2000 && cost<=4000){

savedpercent=10;

}

if (cost>4000 && cost<=6000){

savedpercent=20;

}

if (cost>6000){

savedpercent=35;

}

savedamount = cost \* (savedpercent/100.0) ;

discountedcost = cost - savedamount;

printf ("For %d you saved %d % : %d , the discounted cost is %d ", cost , savedpercent , savedamount , discountedcost);

}

else{

printf("discount on shopping worth minimum Rs.500");

}

}

6. Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer.\_\_\_\_?

**SOLUTION**

#include <stdio.h>

#include <string.h>

int main() {

int c\_id, unit\_consumed, total\_charge, surcharge, netamount;

float charge\_per\_unit;

char c\_name[20];

printf("Enter customerID, CustomerName and Units Consumed: ");

scanf("%d %s %d", &c\_id, c\_name, &unit\_consumed);

if (unit\_consumed <= 199) {

charge\_per\_unit = 16.20;

} else if (unit\_consumed <= 299) {

charge\_per\_unit = 20.10;

} else if (unit\_consumed <= 499) {

charge\_per\_unit = 27.10;

} else {

charge\_per\_unit = 35.90;

}

total\_charge = charge\_per\_unit \* unit\_consumed;

surcharge = total\_charge \* 0.15;

netamount = total\_charge + surcharge;

printf("CustomerID: %d\nCustomer Name: %s\nUnits Consumed: %d\nAmount Charges@ %f per unit: %d\nSurcharge Amount: %d\nNet Amount Paid by the Customer: %d\n",

c\_id, c\_name, unit\_consumed, charge\_per\_unit, total\_charge, surcharge, netamount);

return 0;

}

7. Given a positive integer denoting n, do the following:\_\_\_?

**SOLUTION**

#include <stdio.h>

int main() {

int input ;

printf("Enter a number between 1 to 9 \n ");

scanf(" %d ", &input);

if(input<=0){

printf("Invalid Input");

}

else{

switch (input){

case 1:

printf("One"); break;

case 2:

printf("Two"); break;

case 3:

printf("Three"); break;

case 4:

printf("Four"); break;

case 5:

printf("Five"); break;

case 6:

printf("Six"); break;

case 7:

printf("Seven"); break;

case 8:

printf("Eight"); break;

case 9:

printf("Nine"); break;

default :

printf("Greater than 9 ");

}

}

}