**Switch Case Problems**

1. ***Write a program which takes the month number as an input and display number of days in that month.***

#include<stdio.h>

int main ()

{

int month;

printf("enter month number:");

scanf("%d",&month);

switch(month)

{

case 1: printf("31 days in %d month.", month);

break;

case 2: printf("28 or 29 days in %d month.", month);

break;

case 3: printf("31 days in %d month.", month);

break;

case 4: printf("30 days in %d month.", month);

break;

case 5: printf("31 days in %d month.", month);

break;

case 6: printf("30 days in %d month.", month);

break;

case 7: printf("31 days in %d month.", month);

break;

case 8: printf("31 days in %d month.", month);

break;

case 9: printf("30 days in %d month.", month);

break;

case 10: printf("31 days in %d month.", month);

break;

case 11: printf("30 days in %d month.", month);

break;

case 12: printf("31 days in %d month.", month);

break;

default: printf("invalid month number:");

}

return 0;

}

1. ***Write a menu driven program with the following options:***
   1. ***Addition***
   2. ***Subtraction***
   3. ***Multiplication***
   4. ***Division***
   5. ***Exit***

#include<stdio.h>

int main ()

{

char menu;

printf("enter a menu option:");

scanf("%c",&menu);

switch(menu)

{

case 'a': printf("a.Addition");

break;

case 'b': printf("b.Substraction");

break;

case 'c': printf("c.Multiplication");

break;

case 'd': printf("d.Division");

break;

case 'e': printf("e.Exit");

break;

default: printf("invalid option:");

}

return 0;

}

1. ***Write a program which takes the day number of a week and displays a unique greeting message for the day.***

#include<stdio.h>

int main ()

{

int n;

printf("enter a day number:");

scanf("%d",&n);

switch(n)

{

case 1: printf("today is Sunday that means funday...!");

break;

case 2: printf("today is Monday and starting all work from today");

break;

case 3: printf("today is Tuesday nothing special today");

break;

case 4: printf("today is Wednesday nothing special today");

break;

case 5: printf("today is Thursday that means saibaba's day");

break;

case 6: printf("today is Friday");

break;

case 7: printf("today is Saturday last day of week...!");

break;

default: printf("invalid option:");

}

return 0;

}

***4. Write a menu driven program with the following options:***

***a. Check whether a given set of three numbers are lengths of an isosceles triangle or not***

***b. Check whether a given set of three numbers are lengths of sides of a right angled triangle or not***

***c. Check whether a given set of three numbers are equilateral triangle or not***

***d. Exit***

#include<stdio.h>

int main ()

{

int a,b,c,menu,n=1;

while(n)

{

printf("\nEnter a menu option:");

scanf("%d",&menu);

switch(menu)

{

case 1: printf("\nEnter three numbers:");

scanf("%d%d%d",&a,&b,&c);

if(a==b || (a==c || b==c))

printf("\nthis triangle is isosceles triangle.");

else

printf("\nthis triangle is not isosceles triangle.");

break;

case 2: printf("\nEnter three numbers:");

scanf("%d%d%d",&a,&b,&c);

if((a\*a)+(b\*b)==c\*c || (a\*a)+(c\*c)==b\*b || (b\*b)+(c\*c)==a\*a)

printf("\nthis triangle is right angle triangle.");

else

printf("\nthis triangle is not right angle triangle.");

break;

case 3: printf("\nEnter three numbers:");

scanf("%d%d%d",&a,&b,&c);

if(a==b && (a==c && b==c))

printf("\nthis triangle is equilateral triangle.");

else

printf("\nthis triangle is not equilateral triangle.");

break;

case 4: printf("\nExit");

n=0;

break;

default: printf("\ninvalid option.");

}

}

return 0;

}

***6. Program to check whether a year is a leap year or not. Using switch statement.***

#include<stdio.h>

int main ()

{

int year,n=1;

while(n)

{

printf("\nEnter a year:");

scanf("%d",&year);

switch(year%100==0)

{

case 1: switch(year%400==0)

{

case 1: printf("\n%d is leap year.",year);

break;

case 0: printf("\n%d is not leap year.",year);

break;

}

break;

case 0: switch(year%4==0)

{

case 1: printf("\n%d is leap year.",year);

break;

case 0: printf("\n%d is not leap year.",year);

break;

}

}

if(year==5)

break;

}

return 0;

}

***7. Program to take the value from the user as input electricity unit charges and calculate total electricity bill according to the given condition . Using the switch statement.***

***For the first 50 units Rs. 0.50/unit***

***For the next 100 units Rs. 0.75/unit***

***For the next 100 units Rs. 1.20/unit***

***For units above 250 Rs. 1.50/unit***

***An additional surcharge of 20% is added to the bill.***

#include<stdio.h>

int main ()

{

int unit;

float bill,total;

printf("\nEnter a unit:");

scanf("%d",&unit);

switch(unit<=50)

{

case 1: bill=unit\*0.5;

break;

case 0: switch(unit<=150)

{

case 1: bill=25+((unit-50)\*0.75);

break;

case 0: switch(unit<=250)

{

case 1: bill=100+((unit-150)\*1.2);

break;

case 0: bill=220+((unit-250)\*1.5);

break;

}

break;

}

break;

}

total=bill+(bill\*0.2);

printf("\nTotal electricity bill:%.2fRs",total);

return 0;

}

***8***. ***Program to convert a positive number into a negative number and negative number into a positive number using a switch statement.***

#include<stdio.h>

int main ()

{

int num,n;

printf("\nEnter a number:");

scanf("%d",&num);

n=num;

switch(num<0)

{

case 1: num=(-num);

printf("%d is converted in positive %d.",n,num);

break;

case 0: num=(-num);

printf("%d is converted in negative %d.",n,num);

break;

}

return 0;

}

***9. Program to Convert even number into its upper nearest odd number and odd number into its upper nearest even number using switch Statement.***

#include<stdio.h>

int main ()

{

int num,n;

printf("\nEnter a number:");

scanf("%d",&num);

n=num;

switch(num%2==0)

{

case 1: num=num+1;

printf("%d is nearest odd number of %d.",num,n);

break;

case 0: num=num+1;

printf("%d is nearest even number of %d.",num,n);

break;

}

return 0;

}

***10. C program to find all roots of a quadratic equation using switch case***

#include<stdio.h>

int main ()

{

int a,b,c,D,D1;

float srt1,srt2,root1,root2;

printf("enter two numbers:");

scanf("%d%d%d",&a,&b,&c);

D=(b\*b)-(4\*a\*c);

D1=(4\*a\*c)-(b\*b);

srt1=sqrt(D);

srt2=sqrt(D1);

switch(D==0)

{

case 1: root1=(-b)/(float)(2\*a);

printf("\n%.2f is root of quadratic equation.",root1);

break;

case 0: switch(D>0)

{

case 1: root1=(-b+srt1)/(2\*a);

root2=(-b-srt1)/(2\*a);

printf("\n%.2f and %.2f are two roots of quadratic equation.",root1,root2);

break;

case 0: root1=(-b)/(float)(2\*a)+(srt2/(2\*a));

root2=(-b)/(float)(2\*a)-(srt2/(2\*a));

printf("\n%.2fi and %.2fi are two imaginary roots of quadratic equation.",root1,root2);

break;

}

break;

}

return 0;

}