| **Practical Number** | 04 |
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| **Areas covered** | Selection and iteration control structures |

**If else and Switch Statements**

Q1) Use If-Else and write a program that reads an integer and determines and prints if the number is even or odd. (i.e. divisible by 2)

#include<stdio.h>

int main()

{

int a;

printf("Enter An Integer - ");

scanf("%d",&a);

if(a%2==0){printf("The Number Entered Is An Even Number");}

else{printf("The Number Entered Is A Odd Number");}

}

Re-write the above program using a switch statement instead of an If-Else statement!

#include<stdio.h>

int main()

{

int a;

printf("Enter An Integer - ");

scanf("%d",&a);

switch(a%2)

{

case 0:printf("It Is An Even Number");break;

default:printf("It Is A Odd Number");break;

}

}

Q2) Write a simple menu driven calculator to perform (+ - / \*) operations. (The program must display a menu to select the desired operator.)

#include<stdio.h>

int main()

{

int a,b,c;

printf("Menu:\n1. Addition (+)\n2. Subtraction(-)\n3. Multiplication(\*)\n4. Division(/)\n\n");

printf("Enter 2 Numbers - ");

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

printf("Enter The Option Number Of The Operation You Want - ");

scanf("%d",&c);

switch(c)

{

case 1:printf("\n%d + %d = %d\n",a,b,a+b);break;

case 2:printf("\n%d - %d = %d\n",a,b,a-b);break;

case 3:printf("\n%d \* %d = %d\n",a,b,a\*b);break;

case 4:printf("\n%d / %d = %d\n",a,b,a/b);break;

default:printf("\nYou Have Entered An Invalid Option Number\n");break;

}

}

Q3) Create a text-based, menu-driven program that allows the user to choose whether to calculate the circumference of a circle, the area of a circle or the volume of a sphere. The program should then input a radius from the user, perform the appropriate calculation and display the result.

#include<stdio.h>

int main()

{

int a;

float b,c;

printf("Menu:\n1. Circumference Of A Circle\n2. Area Of A Circle\n3. Volume Of A Sphere\n\n");

printf("Enter The Option Number Of The Calculation That You Want To Do - ");

scanf("%d",&a);

switch(a)

{

case 1:printf("Enter The Radius Of The Circle - ");scanf("%f",&b);printf("\n%f\n",2\*3.14\*b);break;

case 2:printf("Enter The Radius Of The Circle- ");scanf("%f",&b);printf("\n%f\n",3.14\*b\*b);break;

case 3:printf("Enter The Radius Of The Sphere- ");scanf("%f",&b);printf("\n%f\n",(4\*3.14\*b\*b\*b)/3);break;

default:printf("\nYou Have Entered An Invalid Option Number\n");break;

}

}

Q4) Write a C program to read a character from the user and determine whether the given letter is vowel or not. (Use a switch statement which also includes ‘default’ state).

#include<stdio.h>

int main()

{

char a;

printf("Enter A Chracter - ");

scanf("%c",&a);

switch(a)

{

case 'a':

case 'A':

case 'e':

case 'E':

case 'i':

case 'I':

case 'o':

case 'O':

case 'u':

case 'U':printf("\n%c Is A Vowel\n",a);break;

default:printf("\n%c Is Not A Vowell\n",a);break;

}

}

Q5) Write a C program to enter month number and print total number of days in month using switch case. First assume that the given month belongs to a non-leap year.

#include<stdio.h>

int main()

{

int a;

printf("Enter The Month Number - ");

scanf("%d",&a);

switch(a)

{

case 1:printf("\nThere Are 31 Days In January\n");break;

case 2:printf("\nThere Are 28 Days In February\n");break;

case 3:printf("\nThere Are 31 Days In March\n");break;

case 4:printf("\nThere Are 30 Days In April\n");break;

case 5:printf("\nThere Are 31 Days In May\n");break;

case 6:printf("\nThere Are 30 Days In June\n");break;

case 7:printf("\nThere Are 31 Days In July\n");break;

case 8:printf("\nThere Are 31 Days In August\n");break;

case 9:printf("\nThere Are 30 Days In September\n");break;

case 10:printf("\nThere Are 31 Days In October\n");break;

case 11:printf("\nThere Are 30 Days In November\n");break;

case 12:printf("\nThere Are 31 Days In December\n");break;

default:printf("\nThere Are Only 12 Months For A Year\n");break;

}

}