
Part A

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()
{
    //Using If else statement
    int n1;
    printf("Enter a number: ");
    scanf("%d",&n1);

    if(n1%2==0)
    {
        printf("%d is an even number",n1);
    }
    else
    {
        printf("%d is a odd number",n1);
    }
    printf("\n\n");
}
```

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

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 menu;
```

```

float n1,n2;

printf("Enter two numbers: ");
scanf("%f %f",&n1,&n2);


printf("\nSelect your operator\n");
printf("Enter 1 to add(+)\n");
printf("Enter 2 to subtract(-)\n");
printf("Enter 3 to multiply(*)\n");
printf("Enter 4 to divide(/)\n");
scanf("%d",&menu);
printf("\n\n");


switch(menu)
{
    case 1: printf("Answer = %.2f\n",n1+n2); break;
    case 2: printf("Answer = %.2f\n",n1-n2); break;
    case 3: printf("Answer = %.2f\n",n1*n2); break;
    case 4: printf("Answer = %.2f\n",n1/n2); break;
    default: printf("Invalid operation");
}
}

```

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 r;

```

```

char menu;
const float PI=3.14159;
float C,A,V;

printf("\nC -Circumference of circle.\nA -Area of circle.\nV -Volume of a sphere.\n");
printf("\nSelect the operator.\n");
scanf("%c",&menu);

printf("Input radius: ");
scanf("%d",&r);

switch(menu)
{
    case 'C': printf("Circumference of the circle is %.2f\n",C,C=2*PI*r);break;
    case 'A': printf("Area of the circle is %.2f\n",A,A=PI*r*r);break;
    case 'V': printf("Volume of the sphere is %.2f",V,V=(4*PI*r*r*r)/3);break;
    default: printf("Invalid Value.");
}
}

```

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 ch;
    printf("Enter a character: ");
    scanf("%c",&ch);

```

```

switch(ch)
{
    case 'A':printf("This letter is a vowel.");break;
    case 'a':printf("This letter is a vowel.");break;
    case 'E':printf("This letter is a vowel.");break;
    case 'e':printf("This letter is a vowel.");break;
    case 'I':printf("This letter is a vowel.");break;
    case 'i':printf("This letter is a vowel.");break;
    case 'O':printf("This letter is a vowel.");break;
    case 'o':printf("This letter is a vowel.");break;
    case 'U':printf("This letter is a vowel.");break;
    case 'u':printf("This letter is a vowel.");break;
    default :printf("Letter '%c' is not a vowel.",ch);
}
printf("\n");
}

```

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 mo;
    printf("1-January\n2-Feburary\n3-March\n4-April\n5-May\n6-June\n7-July\n8-
        August\n9-September\n10-October\n11-November\n12-December\n");
    printf("\nSelect a month number: ");
    scanf("%d",&mo);

    switch(mo)
    {

```

```
case 1: printf("31 days on January month.");break;
case 2: printf("28 days on Feburary month.");break;
case 3: printf("31 days on March month.");break;
case 4: printf("30 days on April month.");break;
case 5: printf("31 days on May month.");break;
case 6: printf("30 days on June month.");break;
case 7: printf("31 days on July month.");break;
case 8: printf("31 days on August month.");break;
case 9: printf("30 days on September month.");break;
case 10: printf("31 days on October month.");break;
case 11: printf("30 days on November month.");break;
case 12: printf("31 days on December month.");break;
default: printf("Invalid month.");
}
printf("\n");
return 0;
}
```
