Q.1. Write a 'C' Program to input week number (1-7) and print the corresponding day of week name using switch case.

```c
#include <stdio.h>
int main () {
int n;
Printf(" Enter a number (1-7) to get the day of the
                                    week: ");
Scanf (" %d", &n);
switch (n) {
Case 1 :   Printf ("sunday");
           Break;
Case 2 :   printf (" Monday");
           break;
Case 3:    Printf (" Tuesday");
           break;
case 4:    printf (" Wednesday");
           break;
Case 5 :   Printf (" Thursday");
           break;
Case 6 :   Printf (" Friday");
           break;
Case 7:    Printf (" saturday");
           break;
```
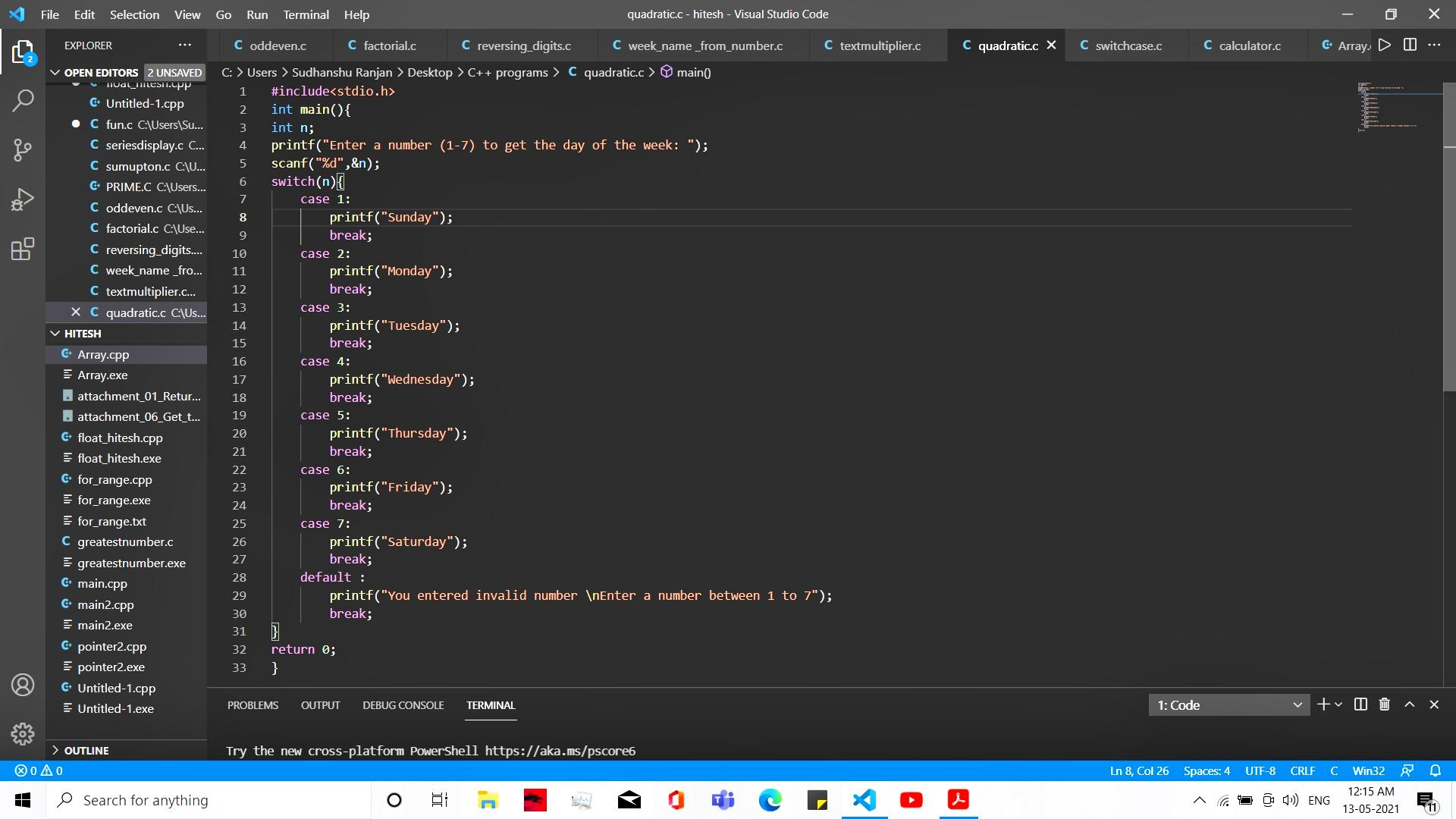
```
default :
Printf ("you entered invalid number \n Enter a
            number between 1 to 7");
        break;
    }
    return 0;
}
```

```c
#include<stdio.h>
int main(){
int n;
printf("Enter a number (1-7) to get the day of the week: ");
scanf("%d",&n);
switch(n){
    case 1:
        printf("Sunday");
        break;
    case 2:
        printf("Monday");
        break;
    case 3:
        printf("Tuesday");
        break;
    case 4:
        printf("Wednesday");
        break;
    case 5:
        printf("Thursday");
        break;
    case 6:
        printf("Friday");
        break;
    case 7:
        printf("Saturday");
        break;
    default :
        printf("You entered invalid number \nEnter a number between 1 to 7");
        break;
}
return 0;
}
```

TERMINAL

Try the new cross-platform PowerShell https://aka.ms/pscore6

```c
#include<stdio.h>
int main(){
int n;
printf("Enter a number (1-7) to get the day of the week: ");
scanf("%d",&n);
switch(n){
    case 1:
        printf("Sunday");
        break;
    case 2:
        printf("Monday");
        break;
    case 3:
        printf("Tuesday");
        break;
    case 4:
        printf("Wednesday");
        break;
    case 5:
```

TERMINAL

```
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\C++Full course\hitesh> cd "c:\Users\Sudhanshu Ranjan\Desktop\C++ programs\" ; if ($?) { gcc quadratic.c -o quadratic } ; if ($?) { .\quadratic }
Enter a number (1-7) to get the day of the week: 5
Thursday
PS C:\Users\Sudhanshu Ranjan\Desktop\C++ programs> cd "c:\Users\Sudhanshu Ranjan\Desktop\C++ programs\" ; if ($?) { gcc quadratic.c -o quadratic } ; if ($?) { .\quadratic }
Enter a number (1-7) to get the day of the week: 1
Sunday
Enter a number (1-7) to get the day of the week: 5
Thursday
PS C:\Users\Sudhanshu Ranjan\Desktop\C++ programs> cd "c:\Users\Sudhanshu Ranjan\Desktop\C++ programs\" ; if ($?) { gcc quadratic.c -o quadratic } ; if ($?) { .\quadratic }
Enter a number (1-7) to get the day of the week: 1
Sunday
PS C:\Users\Sudhanshu Ranjan\Desktop\C++ programs> cd "c:\Users\Sudhanshu Ranjan\Desktop\C++ programs\" ; if ($?) { gcc quadratic.c -o quadratic } ; if ($?) { .\quadratic }
Enter a number (1-7) to get the day of the week: 8
You entered invalid number
Enter a number between 1 to 7
PS C:\Users\Sudhanshu Ranjan\Desktop\C++ programs> []
```

2. Write a 'c' language program to check whether it is vowel or consonant using switch-case statement.

```c
#include <stdio.h>
int main () {
char letter;
Printf ("Enter a letter to check whether it is
           vowel or consonant : ");
Scanf ("% c", & letter);
getchar ();
switch (letter) {
  case 'a':
  case 'e':
  case 'i':
  case 'o':
  case 'u':
  Printf ("Letter is vowel.");
  break;

  default:
  Printf ("Letter is consonant");
  break;
}
return 0;
}
```

```c
#include<stdio.h>
int main(){
 char letter;
 printf("Enter a letter to check whether it is vowel or consonant :  ");
 scanf("%c",&letter);
 getchar();
 switch (letter){
    case 'a':
    case 'e':
    case 'i':
    case 'o':
    case 'u':
    printf("Letter is vowel.");
    break;
    default :
    printf("Letter is consonant");
    break;
}
return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

```
PS D:\C++Full course\hitesh> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc vowel_consonant.c -o vowel_consonant } ; if ($?) { .\vowel_consonant }
Enter a letter to check whether it is vowel or consonant :  w
Letter is consonant
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc vowel_consonant.c -o vowel_consonant } ; if ($?) { .\vowel_co
nsonant }
Enter a letter to check whether it is vowel or consonant :  u
Letter is vowel.
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc vowel_consonant.c -o vowel_consonant } ; if ($?) { .\vowel_co
nsonant }
Enter a letter to check whether it is vowel or consonant :  a
Letter is vowel.
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game> []
```

5. Write a 'c' language program to perform the multiple arithematic operations using switch-case.

```c
#include <stdio.h>
int main () {
    char operator;
    double  a, b;
    printf ("Enter first number : ");
    scanf ("%1f", a);
    printf (" Enter second number : ");
    scanf ("%1f", b);

    fflush(stdin);

    printf ("Enter an operator (+, -, *, /): ");
    scanf ("%c", & operator);
    getchar ();

    switch (operator) {

    Case '+' :
        printf ("%.1lf + %.1lf = %.1lf\n", a, b, a+b);
        break;
    Case '-' :
        printf ("%.1lf - %.1lf = %.1lf\n", a, b, a-b);
        break;
```

```c
        case '*':
    Printf ("%.1lf * %.1lf = %.1lf, a, b, a*b);
        break;
            case '/':

    Printf ("%.1lf / %.1lf = %.1lf, a, b, a/b);

        break;


    default:

    Printf ("you selected invalid operator, Please ! select,
                appropriate operator \n"!);

        }

    return 0;


    }
```

```c
#include <stdio.h>
int main() {
    char operator;
    double a, b;
    printf("Enter first number : ");
    scanf("%lf", &a);
    printf("Enter second number : ");
    scanf("%lf", &b);
    fflush(stdin);
    printf("Enter an operator (+, -, *,/): ");
    scanf("%c", &operator);
    getchar();
    switch (operator) {
    case '+':
        printf("%.1lf + %.1lf = %.1lf\n", a, b, a+b);
        break;
    case '-':
        printf("%.1lf - %.1lf = %.1lf\n", a, b, a - b);
        break;
    case '*':
        printf("%.1lf * %.1lf = %.1lf\n", a, b, a * b);
        break;
    case '/':
        printf("%.1lf / %.1lf = %.1lf\n", a, b, a/b);
        break;
    default:
        printf("You selected invalid operator, Please ! select, appropriate operator\n");
    }
```

4. WAP in C to find all roots of a quadratic equation $(ax^2 + bx + c)$ using switch case.

```c
#include <stdio.h>
#include <math.h>
int main (){
    int a,b,c;
    double d, firstroot, secondroot, imaginary;
    Printf ("Enter the value of a, b,c in the form of the
    equation (ax^2 + bx + c) \n");
    Printf ("Enter the value of a : \n");
    Scanf ("%d", &a);
    Printf ("Enter the value of b : \n");
    Scanf ("%d", &b);
    Printf ("Enter the value of c: \n");
    Scanf ("%d", &c);
    d = ((b*b) - 4* a * c);
    printf (" Finding roots of a quadratic equation : \n");
    switch (d > 0){
        case 1 :
            firstroot = ((-b) + sqrt (d))/(2*a);
            secondroot = ((-b) - sqrt (d))/(2*a);
            Printf ("First root = %.2lf \n Second root =
            %..2lf", firstroot, secondroot);
```

```c
            break;
    Case 0:
        switch (d<0){
            case 1:
                real = (-b)/(2*a);
                imaginary = (sqrt(-d))/(2*a);
                Printf (" First root = %.2lf + %.2lf i\n",
                        real, imaginary);
                Printf (" First root = %.2lf - %.2lf i\n",
                        real, imaginary);
                break;
            case 0:
                first root = (-b)/(2*a);
                secondroot = (-b)/(2*a);
                Printf ("First root is %.2lf \n second root is
                        %.2lf ",firstroot, secondroot);
                break;
                }
            break
        }
    return 0;
}
```

```c
#include<stdio.h>
#include<math.h>
int main(){
        int a,b,c;
double d,firstroot,secondroot,imaginary,real;
printf("Enter the value of a,b,c in the form of the equation (ax^2 + bx + c)\n");
printf("Enter the value of a : \n");
scanf("%d",&a);
printf("Enter the value of b : \n");
scanf("%d",&b);
printf("Enter the value of c : \n");
scanf("%d",&c);
d=((b*b) - 4*a*c);
printf("Finding roots of a quadratic equation :\n");
switch(d > 0){
        case 1:
          firstroot =( (-b) +sqrt(d)) / (2*a);
          secondroot =( (-b) -sqrt(d)) / (2*a);
            printf("First root = %.2lf \nSecond root = %.2lf",firstroot,secondroot);
            break;
        case 0:
          switch(d < 0){
            case 1:
              real  = (-b) /(2*a);
              imaginary =  (sqrt(-d))/(2*a);
              printf("First root = %.2lf +%.2lf i\n",real,imaginary);
              printf("Second root = %.2lf -%.2lf i ",real,imaginary);
              break;
            case 0:
              firstroot  = (-b)/(2*a);
              secondroot  = (-b)/(2*a);
              printf(" First root is %.2lf \nsecond root is %.2lf",firstroot,secondroot);
              break;
            }
            break;
        }
    return 0;
}
```

```c
#include<stdio.h>
#include<math.h>
int main(){
    int a,b,c;
    double d,firstroot,secondroot,imaginary,real;
    printf("Enter the value of a,b,c in the form of the equation (ax^2 + bx + c)\n");
    printf("Enter the value of a : \n");
    scanf("%d",&a);
    printf("Enter the value of b : \n");
    scanf("%d",&b);
    printf("Enter the value of c : \n");
    scanf("%d",&c);
    d=((b*b) - 4*a*c);
    printf("Finding roots of a quadratic equation :\n");
    switch(d > 0){
        case 1:
            firstroot =( (-b) +sqrt(d)) / (2*a);
            secondroot =( (-b) -sqrt(d)) / (2*a);
            printf("First root = %.2lf \nSecond root = %.2lf",firstroot,secondroot);
            break;
        case 0:
```

5. WAP in C to find whether a given number is even or odd using switch case.

```c
#include <stdio.h>
int main(){
    int n;
    Printf(" Enter a number to find out if it is even
                or odd : ");
    Scanf("%d", &n);
    switch (n == 0){
        Case 1:
            Printf("The entered number is zero.");
            break;
        Case 0:
            switch (n % 2 == 0){
                Case 1:
                    Printf("The entered number is even.");
                    break;
                Case 0:
                    Printf("The entered number is odd.");
                    break;
            }
            break;
    }
    return 0;
}
```

EXPLORER

⋯ OPEN EDITORS 3 UNSAVED
> HITESH
> OUTLINE

C: > Users > Sudhanshu Ranjan > Desktop > snake game > C textmultiplier.c > ⬡ main()

```c
1   #include<stdio.h>
2   int main(){
3       int n;
4   printf("Enter a number to find out if it is even or odd : ");
5   scanf("%d",&n);
6   switch(n == 0){
7       case 1:
8           printf("The entered number is zero.");
9           break;
10      case 0:
11          switch(n % 2 == 0){
12          case 1:
13              printf("The entered number is even.");
14              break;
15          case 0:
16              printf("The given number is odd.");
17              break;
18          }
19      break;
20      }
21      return 0;
22  }
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\C++Full course\hitesh> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc textmultiplier.c -o textmultiplier } ; if ($?) { .\textmultiplier }
Enter a number to find out if it is even or odd : 2
The entered number is even.
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc textmultiplier.c -o textmultiplier } ; if ($?) { .\textmultip
lier }
Enter a number to find out if it is even or odd : 7
The given number is odd.
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game> cd "c:\Users\Sudhanshu Ranjan\Desktop\snake game\" ; if ($?) { gcc textmultiplier.c -o textmultiplier } ; if ($?) { .\textmultip
lier }
Enter a number to find out if it is even or odd : 0
The entered number is zero.
PS C:\Users\Sudhanshu Ranjan\Desktop\snake game>

Ln 16, Col 45   Spaces: 8   UTF-8   CRLF   C   Win32