Neehal-1BM19CS097

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Week-2

③
```
# include <stdio.h>
void main()
{
 int i, j, c=1, n;
 printf ("Enter the value of n \n");
 scanf ("%d", &n);
 for (i=1; i<=n; i++)
{
 for (j=1; j<=i; j++)
{
 printf ("%d \t" c);
        c++;
 printf ("\n");
}
}
```

④
```
# include <stdio.h>
void main()
{
int internal_marks, external marks, x, total marks;
printf ("Enter the CIE and SEE marks respectively\n");
scanf ("%d %d", &internal_marks, &external marks);
  x = (external marks/2);
total_marks = internal_marks + x;

if (total_marks < 100 && total marks >= 90)
  {
printf ("Grade is S");
}
else if (total marks <90 && total marks >= 80)
```

```
{
printf ("Grade is A");
}
else if (total marks <80 && total marks >=70)
{
printf ("Grade is B");
}
else if (total marks <70 && total marks >=60)
{
printf ("Grade is C");
}
else if ("total_marks <60 && total marks >=70)
{
printf ("Grade is D");
}
else
{
printf ("Grade is F");
}
}
```

(5).

```
#include <stdio.h>
void main()
int x, y, i, j, e = 0;
printf ("Enter the starting value" \n);
Scanf ("%d", &x);
printf ("Enter the ending value" \n);
Scanf ("%d", &y);

for (i= x; i<=y ,i++)
```

```
{
for (j=1 ; j<=i, j++)
{
if (i%. j== =0)
{
c++;
}
}
if (c==2)
{
printf (".1. d\n" ,i);
}
c= 0;
}
}
```

(6)

```
# include <stdio.h>
# include <math.h>
void main ()
{
float r, h, area, volume;
int opt;
char ch;
const .float pi = 3.14;
do {
printf ("For which Shape you want to Calculate Area
and Volume: \n");
printf ("\n Option: \n1-cylinder \n2- Cone \n3-Sphere\n");
Scanf (".1.d", &opt);
Switch (opt){
```

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```
case 1:
printf ("\n Enter the radius of cylinder:");
scanf ("%f", &r);
printf ("\n Enter the height of cylinder:");
scanf ("%f", &h);
area = (2 * pi * r * h) + (2 * pi * r * r);
volume = pi * r * r * h;
printf ("\n Area: %f", area);
printf ("\n Volume: %f", volume);
break;

case 2:
printf ("\n Enter the radius of cone:");
scanf ("%f", &r);
printf ("\n Enter the height of cone:");
scanf ("%f", &h);
area = pi * r * r * (h/3);
area = pi * r * (r + sqrt((h*h + r*r)));
volume = pi * r * r * (h/3);
printf ("\n Area: %f", area);
printf ("\n Volume: %f", volume);
break;

case 3:
printf ("\n Enter the radium of sphere:");
scanf ("%f", &r);
area = 4 * pi * r * r;
volume = (4/3) * pi * r * r * r;
printf ("\n Area: %f", area);
printf ("\n Volume: %f", volume);
break;
```

```
}
printf("\n if you want to repeat Y or N\n");
scanf("%c", &ch);
}
while (ch=='y' || ch=='Y');
}
```

(7)

```
#include <stdio.h>
#include <string.h>
struct getname {
char name[10];
};
int main()
{
struct getname arr[100];
int n;
int a[100];
int count1=0;
    count2=0;
    count3=0;
printf("Select the ~~the~~ erective courses\n");
printf("1. Internet of things\n
        2. Advanced Java\n
        3. Advanced Data Structures\n");
Int num;
printf("Enter the no. of students:");
scanf("%d", &num);
for(i=0; i<num; i++)
{
printf("Enter students name:");
scanf("%s", &arr[i].name);
```

```
printf ("Enter choice:");
scanf ("%d", &n);
a[i] = n;
if (a[i] == 1)
{
count1 ++;
}
else if (a[i] == 2){
count 2 ++;
}
else if (a[i]==3)
{
count 3++;
}
}
printf ("operation 1 \n");
int x;
printf ("Enter the elective for which you want
                the list:");
scanf ("%d", &x);
for (int i = 0; i<num; i++)
{
if (a[i]==x)
{
printf (" >%s \n", arr[i].name);
}
}
printf ("operation 2 \n");
if (count1 <30)
{
count1 = 0;
```

```
printf ("All students who opted for elective course 1 are
  required to choose different elective course\n");
for (int i=0; i<num; i++){
 if (a[i]==1)
{
printf ("%.s select elective course 2 or 3:", arr[i].
                                          name);
 scanf ("%d", &n);
a[i]=n;
 if (n==3)
 count 2++;
else if (n==3)
 count 3++;
}
}
}
if (count 2<30)
{
count2 = 0;
printf ("All students who opted for elective course 2
        are required to choose different elective course\
          n");
 {for (int i=0; i<num; i++)
{
 If (a[i]==2)
{
printf ("Select from elective course 1 or 3:", arr[i].
                                          name);
 scanf ("%d", &n);
  a[i]=n;
  If (n==1)
```

```
count1++;
else if(n==3)
count3++;
}
}
}
if (count3<30)
{
count3=0;
printf("All students who opted for elective
course 3 are required to choose different elective
course.\n");
for(int i=0;i<num,i++)
{
if(a[i]==3)
{
printf("\t.s select from elective course 1 or 2:",
arr[i].name);
scanf("%d",&n);
a[i]=n;
if(n==1)
count1++;
else if(n==2)
count2++;
}
}
}
printf("operation 3\n");
printf("No. of students who opted for elective
course one: %d", count1);
```

```
printf ("No. of students who opted for elective course
        two: %d", count2);
printf ("No. of students who opted for elective course
        three: %d", count3);

printf ("operation 4 \n");
printf ("list of students in elective course 1: \n");
for (int i = 0; i<num; i++)
{
if (a[i] == 1).
{
printf ("%s \n", arr[i].name);
}
}

printf ("list of students in elective course 2: \n");
for (int i=0, i<num, i++)
if (a[i] == 2)
{
printf ("%s \n", arr[i].name);
}
}

printf ("list of Student in elective course 3: \n");
for (int i=0; i<num; i++)
{
  if (a(i) == 3)
{
printf ("%s \n", arr[i].name);
}
}
}
```