

SSN COLLEGE OF ENGINEERING (Autonomous)
Affiliated to Anna University
DEPARTMENT OF CSE
UCS 1211 PROGRAMMING IN C LABORATORY
A1 : Simple C Programs using I/O statements, conditional and looping constructs

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Register Number : 185001050

Name : M.Gayathri

Class : CSE-A

1.Program Name: Odd or Even

Program:

```
#include<stdio.h>
int main()
{
int num;
printf("Enter a number: ");
scanf("%d",&num);
if(num%2==0)
printf("The number is even\n");
else
printf("The number is odd\n");
return 0;
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./oddeven
Enter a number: 5
The number is odd
```

2.Program Name: Temperature Conversion

Program:

```
#include<stdio.h>
void main()
{
float c,f,kel;
printf("\nEnter temperature in celsius: ");
scanf("%f",&c);
f=c*9/5+32;
```

```
kel=f+273.15;
printf("\nTemperature in fahrenheit is %0.2f \n",f);
printf("\nTemperature in kelvin is %0.2f \n",kel);
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./temp
Enter temperature in celsius: 35
Temperature in fahrenheit is 95.00
Temperature in kelvin is 368.15
```

3.Program Name: Odd or Even with a flag

Program:

```
#include<stdio.h>
void main()
{
int num,flag;
printf("Enter a number: ");
scanf("%d",&num);
if(num%2==0)
flag=0;
else
flag=1;
printf("Flag =%d \n",flag);
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./oddevenmod
Enter a number: 10
Flag =0
```

4.Program Name: Net salary

Program:

```
#include<stdio.h>
void main()
{
float bp,da,hra,pf,cca,ins,gross,ded, net;
printf("Enter Basic Pay : ");
scanf("%f",&bp);
```

```

da=0.88*bp;
hra=0.08*bp;
cca=1000;
ins=2000;
pf=0.12*bp;
gross=da+hra+cca;
ded=ins+pf;
net=gross-ded;
printf("Gross salary = %0.2f",gross);
printf("\nDeductions = %0.2f",ded);
printf("\nNet salary = %0.2f \n",net);
}

```

Output:

```

csea50@jtl-13:~/assignment1$ ./pay
Enter Basic Pay : 100000
Gross salary = 97000.00
Deductions = 14000.00
Net salary = 83000.00

```

5.Program Name: Net salary using given specifications

Program:

```

#include<stdio.h>
int main()
{
float bp,da,hra,pf,cca,ins,gross,ded, net;
char optionHRA,optionCCA;

printf("Enter Basic Pay : ");
scanf("%f",&bp);

printf("\nEnter the type of HRA('M'/'C'/'T'): ");
scanf("%s",&optionHRA);

printf("\nEnter the type of CCA('W'/'E'/'M'): ");
scanf("%s",&optionCCA);

switch(optionHRA)
{
case 'M': hra=0.1*bp;
          break;
case 'c':hra=0.08*bp;
          break;
case 'T': hra=0.05*bp;
          break;

```

```

}

switch(optionCCA)
{
case 'W': cca=1000;
        break;
case 'E': cca=2000;
        break;
case 'M': cca=5000;
        break;
}

da=0.88*bp;
ins=2000;
pf=0.12*bp;
gross=da+hra+cca;
ded=ins+pf;
net=gross-ded;
printf("Gross salary = %0.2f",gross);
printf("\nDeductions = %0.2f",ded);
printf("\nNet salary = %0.2f \n",net);
return 0;
}

```

Output:

```

csea50@jtl-13:~/assignment1$ ./paymod
Enter Basic Pay : 100000
Enter the type of HRA('M'/'C'/'T'): M
Enter the type of CCA('W'/'E'/'M'): E
Gross salary = 100000.00
Deductions = 14000.00
Net salary = 86000.00

```

6.Program Name: Egg timer

Program:

```

#include<stdio.h>
void main()
{
int n,i,j;
printf("Enter the value of N: ");
scanf("%d",&n);

for(i=0;i<n;++i)
{

```

```

for(j=0;j<=i;++j)
    printf(" ");
for(j=0;j<n-i;j++)
{
    if(j+1!=n-i)
        printf("* _ ");
    else
        printf("* ");
}

```

```

printf("\b\n\n");
}

```

```

for(i=2;i>=0;--i)
{
    for(j=0;j<=i;++j)
        printf(" ");
    for(j=0;j<n-i;j++)
    {
        if(j+1!=n-i)
            printf("* _ ");
        else
            printf("* ");
    }
    printf("\b\n\n");
}
}

```

Output:

csea50@jtl-13:~/assignment1\$./timer

Enter the value of N: 4

```

* _ * _ *

```

```

* _ * _ *

```

```

* _ *

```

```

*

```

```

* _ *

```

```

* _ * _ *

```

```

* _ * _ * _ *

```

7.(i) Program Name: Sum of N integers

Program:

```
#include<stdio.h>
void main()
{
int n,sum=0;
printf("Enter the n: ");
scanf("%d",&n);
for(int i=1;i<=n;++i)
    sum+=i;
printf("Sum of n numbers= %d \n",sum);
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./sum
Enter the n: 4
Sum of n numbers= 10
```

7.(ii) Program Name: Sum of numbers unless it is not -999

Program:

```
#include<stdio.h>
void main()
{
int n,sum=0;
do
{
    printf("Enter the number: ");
    scanf("%d",&n);
    if(n!=-999)
        sum+=n;
}while(n!=-999);

printf("Sum of given numbers= %d \n",sum);
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./sum2
Enter the number: 5
Enter the number: 60
Enter the number: -999
Sum of given numbers= 65
```

7.(iii).Program Name: Sum of numbers till a stoping case

Program:

```
#include<stdio.h>
void main()
{
int n,sum=0;
char ch='y';
do
{
printf("Enter the number: ");
scanf("%d",&n);
sum+=n;
printf("Do you want to continue(y/n)? ");
scanf("%s",&ch);
}while(ch!='n');

printf("Sum of given numbers= %d \n",sum);
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./sum3
Enter the number: 2
Do you want to continue(y/n)? y
Enter the number: 10
Do you want to continue(y/n)? n
Sum of given numbers= 12
```

7.(iv).Program Name: Sum of N Numbers and validate N

Program:

```
#include<stdio.h>
void main()
{
int n,sum=0;
printf("Enter value of n: ");
scanf("%d",&n);
if(n>0 && n<100)
{
for(int i=1;i<=n;++i)
sum+=i;
printf("Sum of n numbers= %d \n",sum);
}
```

```
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./sum4
Enter value of n: 6
Sum of n numbers= 21
```

7.(v).Program Name: sum of N numbers and validate and print error message

Program:

```
#include<stdio.h>
void main()
{
int n,sum=0;

while(1)
{
printf("Enter value of n: ");
scanf(" %d",&n);
if(n<=0 && n>=100)
break;
sum+=n;
}
printf("\nThe sum is: %d",sum);
if(n<=0&&n>=100)
printf("\nN should range between 0 and 100");
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./sum5
Enter value of n: -5
Invalid Input
```

7.(vi).Program Name: sum of N numbers and validate using break

Program:

```
#include<stdio.h>
void main()
{
int n,i=0,num,sum=0;
printf("Enter value of n: ");
```



```

scanf("%d",&n);
while(i<n)
{
printf("Enter value of num: ");
scanf("%d",&num);
if(num>0 && num<100)
{
sum+=num;
i+=1;
}
else printf("\nEnter a number ranging between 0 and 100");
}
}

```

Output:

```

csea50@jtl-13:~/assignment1$ ./sum6
Enter value of n: -2
Invalid input
Enter value of n: 123
Invalid input
Enter value of n: 10
Sum of n numbers= 55

```

8.Program Name: Basic calculator

Program:

```

#include<stdio.h>
void main()
{
float a,b,d,c;
int op;
printf("Enter the value of a: ");
scanf("%f",&a);
printf("Enter the value of b: ");
scanf("%f",&b);
printf("1.Addition\n2.Subtraction\n3.Multiplication\n4.Division\n5.Square");
printf("\nEnter your choice(1-5): ");
scanf("%d",&op);
switch(op)
{
case 1: c=a+b;
break;
case 2: c=a-b;
break;
case 3: c=a*b;

```

```

        break;
case 4: c=a/b;
        break;
case 5: c=a*a;
        d=b*b;
        break;
}
if(op!=5)
printf("RESULT= %.3f \n",c);
else
printf("RESULT=%.3f,%.3f \n",c,d);
}

```

Output:

```

csea50@jtl-13:~/assignment1$ ./calc
Enter the value of a: 5
Enter the value of b: 10
1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Square
Enter your choice(1-5): 3
RESULT= 50.000

```

9.Program Name: Consecutive 5's

Program:

```

#include<stdio.h>
void main()
{
int num,c=0;
printf("Enter n: ");
scanf("%d",&num);
while(num!=0)
{
if(num%10==5)
c+=1;
else
c=0;
if(c==3)
break;
num/=10;
}
if(c==3)

```

```
printf("YES\n");  
else  
printf("NO\n");  
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./fives  
Enter n: 3455567  
YES
```

10.Program Name: Odd or Even without condition

Program:

```
#include<stdio.h>  
void main()  
{  
int n;  
printf("Enter the value of n: ");  
scanf("%d",&n);  
(n%2&&printf("ODD\n"))||printf("EVEN\n");  
}
```

Output:

```
csea50@jtl-13:~/assignment1$ ./q10  
Enter the value of n: 6  
EVEN
```