Lab 6(Loops and Switch Case)
Abhinav Anand Section-B16 Roll-22052611

```
//q1)Perform Arithmetic Calculation
#include<stdio.h>
int main(){
   char op;
   int a,b;
   printf("Enter number operator and another operator:");
   scanf("%d%c%d",&a,&op,&b);
   switch(op){ ca
      se '+':
         printf("Result = %d\n",a+b);
         break;
      case '-':
         printf("Result= %d\n",a-b);
         break;
      case '*':
         printf("Result= %d\n",a*b);
         break;
      case '/':
         printf("Result =%d\n",a/b);
         break;
      case '%':
         printf("Result = %d\n",a%b);
         break;
      default:
         printf("Enter valid operator");
   }
}
```

Output-

```
Enter number operator and another operator:2*5
Result= 10
```

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```
//q2)Check whether an alphabet is a vowel
#include<stdio.h>
int
   main(){ cha
   r ch;
   printf("Enter an alphabet: ");
   scanf("%c",&ch);
   switch(ch){
      case 'a':
      case 'e':
      case 'i':
      case 'o':
      case 'u':
         printf("Alphabet is a vowel");
         break;
      default:
         printf("Alphabet is a consonant");
   }
}
```

Output-

```
Enter an alphabet: a
Alphabet is a vowel
```

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//q3)Write a currency program that tells you how many numbers of 100, 50, 20, 10, 5, 2 and 1 Rs notes will be needed for a given amount of money.

```
#include <stdio.h>

void main()

{

   int amt, samt;

   int notes;

   printf("Enter the amount");

   scanf("%d", &amt);

   samt = amt;

   while (amt != 0)

   {

      if (amt >= 100)

      {

         notes = amt / 100;

         amt = amt - (notes * 100);

         printf("\n No of 100 rupees notes required = %d ", notes);

      }

      else if (amt >= 50 && amt < 100)

      {

         notes = amt / 50;

         amt = amt - (notes * 50);

         printf("\n No of 50 rupees notes required = %d ", notes);

      }

      else if (amt >= 20 && amt < 50)

      {

         notes = amt / 20;

         amt = amt - (notes * 20);

         printf("\n No of 20 rupees notes required = %d ", notes);

      }

      else if (amt >= 10 && amt < 20)

      {
```

```
        notes = amt / 10;
        amt = amt - (notes * 10);
        printf("\n No of 10 rupees notes required = %d ", notes);
      }
      else if (amt >= 5 && amt < 10)
      {
        notes = amt / 5;
        amt = amt - (notes * 5);
        printf("\n No of 5 rupees notes required = %d ", notes);
      }
      else if (amt >= 2 && amt < 5)
      {
        notes = amt / 2;
        amt = amt - (notes * 2);
        printf("\n No of 2 rupees notes required = %d ", notes);
      }
      else
      {
        notes = amt;
        amt = amt - (notes * 1);
        printf("\n No of 1 rupees notes required = %d ", notes);
      }
   }
}
```

Output-

```
Enter the amount543
No of 100 rupees notes required = 5
No of 20 rupees notes required = 2
No of 2 rupees notes required = 1
No of 1 rupees notes required = 1
```

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```
//q4)Print prime numbers from 1 to 99
#include<stdio.h>
#include<math.h>
int main(){
   int n=2;
   printf("The prime numbers are: ");
   while(n<=99){
      int flag=1;
      for(int
         i=2;i<=sqrt(n);i++){ if
         (n%i==0){
            flag=0;
            break;
      }
      }
      if(flag==1){ printf(
         " %d",n);
      }
      n++;
   }
}
```

Output-

The prime numbers are: 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97

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//q5)Enter a number and find the reverse of that number.

```
#include <stdio.h>
int main() {
 int n, reverse = 0, remainder;
  printf("Enter an integer: ");
  scanf("%d", &n);
  while (n != 0)
    { remainder = n %
    10;
    reverse = reverse * 10 + remainder;
    n /= 10;
  }
  printf("Reversed number = %d", reverse);
    return 0;
}
```

Output-

Enter an integer: 482

Reversed number = 284

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//q6)Input a number and a digit and find whether the digit is present in the number or not, if present then count the number of times it occurs in the number.

```
#include <stdio.h>
int main() {
  int n, dig,tm = 0, remainder;
  printf("Enter an integer: ");
  scanf("%d", &n);
  printf("Enter an integer: ");
  scanf("%d", &dig);
  while (n != 0)
    { remainder = n %
    10;
    if(dig==remainder)
       tm++;
    n /= 10;
  }
    printf("No of times Digit Used In The Number = %d", tm);
    return 0;
}
```

Output-

Enter an integer: 128560432

Enter an integer: 2

No of times Digit Used In The Number = 2

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//q7)Enter a number n and print the sum of squares of all numbers from 1 to n.

```
#include <stdio.h>
int main() {
  int n, sum=0;
  printf("Enter the n: ");
  scanf("%d", &n);
  for(int
  i=1;i<=n;i++){ sum+=i*
  i;
  }
    printf("No of Squares of all Number from 1 to N = %d", sum);
    return 0;
}
```

Output-

Enter the n: 15

No of Squares of all Number from 1 to N = 1240

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H.W Questions

//p1)Enter a number n and print the cube of all numbers from 1 to n which are divisible by 3.

```
#include <stdio.h>

int main() {
   int n, i;
   printf("Enter a number: ");
   scanf("%d", &n);
   for (i = 1; i <= n; i++)
      { if (i % 3 == 0) {
         printf("%d^3 = %d\n", i, i*i*i);
      }
   }
   return 0;
}
```

Output-

```
Enter a number: 17
3^3 = 27
6^3 = 216
9^3 = 729
12^3 = 1728
15^3 = 3375
```

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//p2)Enter a six digit number and print the sum of all even digits of that number and multiplication of all odd digits.

```
#include <stdio.h>
int main() {
  int n,sum=0,mul=1,rem;
  printf("Enter an integer: ");
  scanf("%d", &n);
  while  (n  !=  0)
   {  rem  =  n  %
   10;
   if(rem%2==0)
      sum+=rem;
   else
      mul*=rem;
   n /= 10;
  }
  printf("Sum of Even Digits = %d \n Multiplication of Odd Digits =
%d",sum,mul);
  return 0;
}
```

Output-

Enter an integer: 987045

Sum of Even Digits = 12

Multiplication of Odd Digits = 315

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//p3)Find out the value of x raised to the power y, where x and y are positive integers.

```
#include <stdio.h>
int main() {
  int x,y, sum=1;
  printf("Enter the x: ");
  scanf("%d", &x);
  printf("Enter the y: ");
  scanf("%d", &y);
  for(int
  i=1;i<=x;i++){ sum*=y;
  }
    printf("Result= %d", sum);
    return 0;
}
```

Output-

Enter the x: 4

Enter the y: 3

Result= 64

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//p4)Enter a number up to six digits and print that in words.

```
#include <stdio.h>
int main() {
   int num, digit;
   printf("Enter a number up to six digits: ");
   scanf("%d", &num);
   while (num > 0)
      { digit = num % 10;
      switch (digit) {
         case 0:
            printf("zero ");
            break;
         case 1:
            printf("one ");
            break;
         case 2:
            printf("two ");
            break;
         case 3:
            printf("three ");
            break;
         case 4:
            printf("four ");
            break;
         case 5:
            printf("five ");
            break;
```

```
            case 6:
                printf("six ");
                break;
            case 7:
                printf("seven ");
                break;
            case 8:
                printf("eight ");
                break;
            case 9:
                printf("nine ");
                break;
        }
        num /= 10;
    }
    return 0;
}
```

Output-

Enter a number up to six digits: 18659

nine five six eight one