PRACTICLE-05

Section-A

1.

While loop

```
int i;
while (i<=100)
{
printf("%d",i);
i++;
}
```

do While loop

```
int i;
do
{
printf("%d",i);
i++;
}
While(i<=100);
```

for loop

```
for(int i=0; i<=100;i++)
{
printf("%d",i);
}
```

2.

```
int i,marks,tot,avg;
 for(i=1;i<=10;i++)
{
 printf("enter %d mark",i);
scanf("%d",&marks);
tot=tot+marks;
 }
avg=tot/10;
 if(avg>=50)
printf("Pass");
else printf("Fail");
```

3.

```
int num,result=1;
 printf("enter a number:");
 scanf("%d",&num);
 if(num<0)
 printf("Error: Factorial of a negative number is undefined.");
 else if(num==0)
 printf("Error: Factorial of a negative number is undefined.");
 else
 for(int i=1;i<=num;i++)
 {
 result*=i;
 }
 printf("%d",result)}
```

4.

```
int num,result=0;
printf("enter a number:");
scanf("%d",&num);
if(num<0)
printf("Error: Factorial of a negative number is undefined.");
else if(num==0)
printf("Error: Factorial of a negative number is undefined.");
else
for(int i=1;i<=num;i++)
{
result+=i;
}
printf("%d",result);
}
```

5.

```
int num,rem,rev=0;
printf("Enter a number: ");
scanf("%d", &num);
do{
rem=num%10;
rev=rem+(rev*10);
num/=10;
} while (num!=0);
printf("%d",rev);
}
```

6.

```
int base,exp,res=1,i=1;
printf("enter number:");
scanf("%d",&base);
printf("enter power for number:");
scanf("%d",&exp);
if(exp>=0){
while(i<=exp){
res=res*base;
i++;
}
printf("%d",res);
} else
printf("invalid exp value");
```

7.

```
char x[]="Fibonacci Sequence";
for(int i=0;i<=10;i++){
printf("%c",x[i]);
}
```

Q9.

```
int main() {
char letter;
printf("ASCII values for letters A to Z:\n");
for (letter = 'A'; letter <= 'Z'; ++letter) {
printf("%c: %d\n", letter, letter);
}
```

10.

```
int x=5;
 for (int i = 1; i<=x ; ++i) {
 for(int a=1; a<=i; ++a){
 printf("*");
 }
 printf("\n");
 }
```

11.

```
int number, is_prime = 1;
 printf("Enter a number: ");
 scanf("%d", &number);
 if (number < 2) {
 is_prime = 0;
 } else {
 for (int i = 2; i * i <= number; i++) {
 if (number % i == 0) {
 is_prime = 0;
 break;
 }
 }
 }
 if (is_prime) {
 printf("%d is a prime number.\n", number);
 } else {
 printf("%d is not a prime number.\n", number);
 }
```

12.

```
int number;
printf("Enter an integer: ");
scanf("%d", &number);
printf("Factors of %d: ", number);
for (int i = 1; i <= number; i++) {
if (number % i == 0) {
printf("%d ", i);
}
}
printf("\n");
```

13.

```
int num, sum = 0;
printf("Enter numbers to add (enter -1 to stop):\n");
while (1) {
scanf("%d", &num);
if (num == -1) {
break;
}
sum += num;
}
printf("Sum: %d\n", sum);
}
```

Section B

1.

```
int numbers[10];
int positiveCount = 0, negativeCount = 0, zeroCount = 0;
printf("Enter 10 numbers:\n");
for (int i = 0; i < 10; i++) {
scanf("%d", &numbers[i]);
if (numbers[i] > 0) {
positiveCount++;
} else if (numbers[i] < 0) {
negativeCount++;
} else {
zeroCount++;
}
}
printf("Number of positive numbers: %d\n", positiveCount);
printf("Number of negative numbers: %d\n", negativeCount);
printf("Number of zeros: %d\n", zeroCount);
```

2.

```
 int marks[10];
 int i, sum = 0;
 int max_mark = 0, min_mark = 100;

 printf("Enter the marks of 10 students:\n");
 for (i = 0; i < 10; i++) {
 printf("Student %d: ", i + 1);
 scanf("%d", &marks[i]);

 if (marks[i] > max_mark)
 max_mark = marks[i];
 if (marks[i] < min_mark)
 min_mark = marks[i];
 sum += marks[i];
 }
 float average = (float)sum / 10;

 printf("Maximum Marks: %d\n", max_mark);
 printf("Minimum Marks: %d\n", min_mark);
 printf("Average Marks: %.2f\n", average);
}
```

3.

```
int price[10];
int i, sum = 0;
int greater = 200, count = 0;
printf("Enter the price of 10 idems:\n");
for (i = 0; i < 10; i++) {
printf("price %d: ", i + 1);
scanf("%d", &price[i]);
if (price[i] > greater)
count+=1;
sum += price[i];
}
float average = (float)sum / 10;
printf("number of items which the price is greater than 200: %d\n", count);
printf("Average price: %.2f\n", average);
```

4.

```
int employee_no;
float basic_salary;
int count = 0;
printf("Enter the Employee no and Basic Salary (Enter -999 to exit):\n");
while (1) {
printf("Employee no: ");
scanf("%d", &employee_no);
if (employee_no == -999)
break;
printf("Basic Salary: ");
scanf("%f", &basic_salary);
if (basic_salary >= 5000)
count++;
}
printf("Number of Employees with Basic Salary >= 5000: %d\n", count);
```