***Lab Performance…***

***Q.No.1: Write a Program that input two numbers and radius of circle from the user. You give the choice to the user that when user entered # symbol, then it prints Area and Circumference of circle. If user entered \* symbol, then it displays the Result of Addition and Division of two numbers.***

***You do perform this task by using “Switch Multiple Selection Statement”***

* ***“Selection Statements programs…”***

***Program.***

#include<iostream>

using namespace std;

void main()

{

float a,b,x,y,z,pi=3.14,r;

char c;

cout<<"Enter you choice"<<endl;

cout<<"# for area and circumfrance of the circle"<<endl<<"\* for additopn and diviosion"<<endl;

cin>>c;

switch(c)

{

case'#':

cout<<"Enter the radious\t"<<endl;

cin>>r;

x=(3.14\*r\*r);

cout<<"This is area of circle\t"<<x<<endl;

y=(2\*pi\*r);

cout<<"This is circumfrance of the circle\t"<<y<<endl;

break;

case '\*':

cout<<"Enter the first value\t"<<endl;

cin>>a;

cout<<"Enter the second value\t"<<endl;

cin>>b;

z=a+b;

cout<<"Resultof addition\t"<<z<<endl;

z=a/b;

cout<<"Resultof division\t"<<z<<endl;

break;

default:

cout<<"Invalid no"<<endl;}

getchar();

getchar();

}

***Q.No.2: Write a program that input marks of student and pass the marks as a variable and also Return grade of student according to following criteria:***

***Marks Grade***

***90-100 Return A***

***80-90 Return B***

***70-80 Return C***

***Program.***

#include<iostream>

using namespace std;

char result(float m)

{

if(m>=90&&m<=100) //when both conditions are true then output will shown

{cout<<"A grade"<<endl;}

else if(m>=80&&m<90)

{cout<<"B grade"<<endl;}

else if(m>=70&&m<80)

{cout<<"C grade"<<endl;}

else

{cout<<"you ender an invalid marks"<<endl;}

return 0;

}

void main()

{

float a;

char r;

cout<<"Enter The Marks of the Student:"<<endl;

cin>>a;

r=result(a);

getchar();

getchar();

}

* **“Loop Statements Programs…”**

***Q.NO.3: Write a Program that input a number for table from the user. And also input length for table. And shows the table according to its length.***

***You do perform this task by using “For Loop”***

**Program.**

#include<iostream>

using namespace std;

void main()

{int t,n,c;

cout<<"enter the number of table\t(which you want)"<<endl;

cin>>t;

cout<<"enter the length of table\t(where you want to go)"<<endl;

cin>>n;

for(c=1;c<=n;c++)

{cout<<t<<"\*"<<c<<"="<<t\*c<<endl;}

getchar();

getchar();

}

***Q.NO.4: Write a Program that display the following output on the console ”for Loop”:-***

***0 2 4 6 8 . . . . . . . . . . . . . . . . . . . . . . . . 100***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int a,b;

cout<<"Enter the no."<<endl;

cin>>b;

for(a=0;a<b;a+=2)

cout<<a<<endl;

getchar();

getchar();

}

**Q.NO.5:** Write a Program that display the following output on the console **”Nested Loop”**:-

**\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \***

**\* \* \* \* \* \* \* \* \* \* \* \* \* \***

**\* \* \* \* \* \* \* \* \* \* \* \* \* \* \***

**\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \***

**\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \***

***Program.***

#include<iostream>

using namespace std;

void main()

{

for(int m=1;m<5;m++)

{for(int n=1;n<5;n++)

{if(m==1||n==1||m==4||n==4)

{cout<<"\*";}

else

{cout<<" ";}

}

cout<<endl;}

getchar();

getchar();

}

***Program.***

#include<iostream>

using namespace std;

void main()

{

for(int x=1;x<5;x++)

{for(int y=1;y<=x;y++)

{cout<<"\*";}

cout<<endl;}

getchar();

getchar();

}

***Program.***

#include<iostream>

using namespace std;

void main()

{for(int i=5;i>=1;i--)

{for(int j=1;j<=5-i;j++)

cout<<" ";

{for(int k=1;k<=i;k++)

cout<<"\*";

cout<<endl;}

}

getchar();

getchar();

}

***Program.***

#include<iostream>

using namespace std;

void main()

{

for(int x=1;x<5;x++)

{for(int y=2;y<5;y++)

{cout<<"\*";}

cout<<endl;}

getchar();

getchar();

}

***Program.***

#include<iostream>

using namespace std;

void main()

{

int i,j,k;

for(i=1;i<=5;i++)

{

for(j=5;j>=i;j--)

{cout<<" ";}

for(k=1;k<=i;k++)

{cout<<"\*";}

cout<<"\n";

}

getchar();

getchar();

}

* ***“Functions calling Programs…”***

***Q.No.6: Write a Program that inputs three numbers from the user in such a way that one number pass by value, second number pass by reference and third number pass as a constant. And after this all, display the final numbers.***

***Program.***

#include<iostream>

using namespace std;

void bank(int x,int &y,char z)

{cout<<x<<endl;

cout<<y<<endl;

cout<<z<<endl;}

void main()

{int a,b;

char c;

cout<<"Enter two numbers:"<<endl;

cout<<"\nENTER 1st number:"<<endl;

cin>>a;

cout<<"ENTER 2nd number:"<<endl;

cin>>b;

cout<<endl;

bank(a,b,'g');

getchar();

getchar();

}

***Q.NO.7: Write a program that input a number from the user for table and this number pass by reference as function argument. And show the table after the function called.***

***Program.***

#include<iostream>

using namespace std;

void table(int&x)

{

int y;

for(y=1;y<=10;y++)

{cout<<x<<"\*"<<y<<"="<<x\*y<<endl;}}

void main()

{int a;

cout<<"Enter any number for table:"<<endl; // which table you want

cin>>a;

table(a);

getchar();

getchar();

}

***Q.No.8: Write a Program that Print three lines of stars using for loop in the user defined function named as printline( ). You also call printline( ) function from the main( ) function according to your need. And also shows size of Data types using simple cout object in the main function.***

***Program.***

#include<iostream>

using namespace std;

void printline()

{

for(int j=1;j<50;j++)

{cout<<"\*";}

cout<<endl;}

void main()

{

printline();

cout<<" datatype size in bits "<<endl;

printline();

cout<<" int 4 "<<endl

<<" double 8 "<<endl

<<" char 1 "<<endl;

printline();

getchar();

getchar();

}

* ***“Function Overloading”***

***Q.NO.9:Write a program that perform “Function Overloading” with any program example.***

***Program.***

#include<iostream>

using namespace std;

void display()

{cout<<"Always prayer for others!"<<endl;}

void display(int n)

{cout<<"The value of n"<<endl<<n<<endl;}

void display(double c)

{cout<<"The value of c"<<endl<<c<<endl;}

void display(char s,int m)

{cout<<"The value of s and m\t"<<s<<m<<endl;}

void main()

{

display();

display(50);

display(20.5);

display('\*',10);

getchar();

getchar();

}

* ***“Arrays…”***

***Q.No.10: Write a Program that input 500 values from the user in the Array and find out the Minimum value using the concepts of Searching.***

***Program.***

#include<iostream>

using namespace std;

const int length=5;

void main()

{

int s[length],m;

cout<<"Enter the element"<<endl;

for(int p=0;p<length;p++)

{cin>>s[p];}

m=s[0];

for(int p=0;p<length;p++)

{

if(m>s[p])

{m=s[p];}

}

cout<<"Minimum value is"<<m<<endl;

getchar();

getchar();

}

***Q.NO.11: Write a program that input 10 numbers from the user in the Array and find out Sum and Average of the Numbers using One Dimensional Array.***

***Program.***

#include<iostream>

using namespace std;

void main()

{

double s[10];

cout<<"Enter the 10 Numbers:"<<endl;

for(int num=0;num<10;num++)

{cin>>s[num];}

double sum,avg;

sum=0;

for(int num=0;num<10;num++)

{sum=sum+s[num];}

avg=sum/10;

cout<<"Total sum is :"<<sum<<endl;

cout<<"Average is:"<<avg<<endl;

getchar();

getchar();

}

***Q.NO.12: Write a program that perform “Passing Array to Function” with any program example.***

***Program.***

#include<iostream>

using namespace std;

void display(int b[5])

{for(int n=0;n<5;n++)

{cout<<b[n]<<endl;}

}

void main()

{int a[5];

cout<<"Enter the numbers:"<<endl;

for(int m=0;m<5;m++)

{cin>>a[m];}

display(a);

getchar();

getchar();

}

***Q.No.13: Write a Program that find out the Sales for 4 Districts in 3 Months using “Two Dimensional Array Concepts”.***

***Program.***

#include<iostream>

using namespace std;

const int district=4;

const int month=3;

void main()

{double s[4][3];

for(int d=0;d<district;d++)

{for(int m=0;m<month;m++)

{cout<<"Enter The Sales for District "<<d+1;

cout<<"and Month "<<m+1<<":";

cin>>s[d][m];}}

cout<<"\n\n";

cout<<" Months "<<endl;

cout<<"---------------------------------------------"<<endl;

cout<<" 1 2 3 "<<endl;

cout<<"---------------------------------------------"<<endl;

for(int d=0;d<district;d++)

{for(int m=0;m<month;m++)

{cout<<"\t"<<s[d][m]<<"\t";}

cout<<endl;}

getchar();

getchar();

}

***Q.No.14: Write a program that perform “Math Functions(Built-in-Functions)” with any program example.***

***Program.***

#include<iostream>

#include<math.h>

using namespace std;

void main()

{

int a;

float b,c,d,e,f,g,h,i,j,k,l;

cout<<"Result of all build-in-function"<<endl;

cout<<endl;

cout<<"Enter the negative integer number for abs()"<<endl;

cin>>a;

cout<<"Result of absolute funton\t"<<abs(a)<<endl;

cout<<"enter the second value for fabs()"<<endl;

cin>>b;

cout<<"Result of factional absolute funton\t"<<fabs(b)<<endl;

cout<<"enter the 3rd value for ceil()"<<endl;

cin>>c;

cout<<"Result of ceil function\t"<<ceil(c)<<endl;

cout<<"enter the 4th value for floor()"<<endl;

cin>>d;

cout<<"Result of floor function\t"<<floor(d)<<endl;

cout<<"enter the 5th value for sine()"<<endl;

cin>>e;

cout<<"Result of sine function\t"<<sin(e)<<endl;

cout<<"enter the 6th value for cose()"<<endl;

cin>>f;

cout<<"Result of cose function\t"<<cos(f)<<endl;

cout<<"enter the 7th value for tan()"<<endl;

cin>>g;

cout<<"Result of tan function\t"<<tan(g)<<endl;

cout<<"enter the 8th value for log()"<<endl;

cin>>h;

cout<<"Result of log function\t"<<log(h)<<endl;

cout<<"enter the 9th value for log10()"<<endl;

cin>>i;

cout<<"Result of log10 function\t"<<log(i)<<endl;

cout<<"enter the 10th value for squreroot()"<<endl;

cin>>j;

cout<<"Result of squire root function\t"<<sqrt(j)<<endl;

cout<<"enter the 11th value for power()"<<endl;

cin>>k;

cin>>l;

cout<<"Result of power function\t"<<pow(k,l)<<endl;

getchar();

getchar();}

***Q.No.15: Write a Program that input radius of Circle and this radius “pass by value” as Function Arguments and display Area of Circle.***

***Program.***

#include<iostream>

using namespace std;

void area(float r)

{float a;

a=3.14\*r\*r;

cout<<"Area of Circle is:"<<a<<endl;}

void main()

{float b;

cout<<"Enter Radius of Circle:"<<endl;

cin>>b;

area(b);

getchar();

getchar();

}

* ***“Strings…”***

***Q.No.16: Write a Program that perform String Declaration Methods [ cin ] and***

***[ cin.get( ) ].***

***Program.***

#include<iostream>

using namespace std;

void main()

{

char name[20],city[20];

int age;

cout<<"Enter the name"<<endl;

cin.get(name,20);

cout<<"Enter the city"<<endl;

cin>>city;

cout<<"Enter the age"<<endl;

cin>>age;

cout<<"\n your name is" <<name<<endl;

cout<<"\n your city is" <<city<<endl;

cout<<"\n your age is" <<age<<endl;

getchar();

getchar();}

***Q.NO.17: Write a program that inputs five cities of Pakistan from the user. And display these cities using Array of Strings.***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int a;

char city[20][20];

for(a=0;a<5;a++)

{

cout<<"\nEnter the name of city"<<endl;

cin>>city[a];

}

cout<<"\nname of cities are"<<endl;

for(a=0;a<5;a++)

cout<<"\n"<<city[a]<<endl;

getchar();

getchar();

}

***Q.NO.18: Write a Program that perform all String Functions [Built-in-functions].***

***Program.***

***strupr(s);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="ghauri center.";

cout<<"\nBefore the funtion...\n"<<endl<<s<<endl;

strupr(s);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<s<<endl;

getchar();

getchar();

}

***Program.***

***strlwr(s);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="GHAURI CENTER.";

cout<<"\nBefore the funtion...\n"<<endl<<s<<endl;

strlwr(s);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<s<<endl;

getchar();

getchar();

}

***Program.***

***strrev(s);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="GHAURI CENTER.";

cout<<"\nBefore the funtion...\n"<<endl<<s<<endl;

strrev(s);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<s<<endl;

getchar();

getchar();

}

***Program.***

***strset(s,z);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="GHAURI CENTER.";

char z='\*';

cout<<"\nBefore the funtion...\n"<<endl<<s<<endl;

strset(s,z);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<s<<endl;

getchar();

getchar();

}

***Program.***

***strnset(s,z,15);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="GHAURI CENTER 0345 7448497.";

char z='\*';

cout<<"\nBefore the funtion...\n"<<endl<<s<<endl;

strnset(s,z,15);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<s<<endl;

getchar();

getchar();

}

***Program.***

***strcpy(z,s);***

#include<iostream>

#include<string.h>

using namespace std;

void main()

{

char s[]="GHAURI CENTER.";

char z[20];

strcpy(z,s);

cout<<"\n\n\nAfter the funtion..\n"<<endl<<z<<endl;

getchar();

getchar();

}

* ***“Files…”***

***Q.No.19: Write a Program that explain the procedure of Writing Data on Files.***

***Program.***

#include<iostream>

#include<fstream>

using namespace std;

void main()

{

char ch = ' x';

int j=1990;

double d =55.02;

char str1[]= "Pakistan";

char str2[]= "QUETTA";

ofstream outfile("ghauricenter.ppt");

outfile<< ch<<endl << j <<endl<< d <<endl<< str1 <<endl<< str2<<endl;

cout<< ch<<endl << j <<endl<< d <<endl<< str1 <<endl<< str2<<endl;

system("pause");

}

***Q.No.20: Write a Program that perform the method of Reading Data on Files.***

***Program.***

#include<iostream>

#include<fstream>

using namespace std;

void main()

{

char ch;

int j;

double d;

char str1[80]; // jitny merzi limit day doow

char str2[80]; // jitny merzi limit day doow

ifstream infile ("ghauricenter.txt");//file mangwana

infile>> ch >> j >> d>>str1>>str2;

cout<< ch<<endl<<j <<endl<< d<<endl<<str1<<endl<<str2<<endl;

system("pause");}

* ***“Pointer…”***

***Q.No.21: Write a Program that explains simple Pointer Variable.***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int m;

int n;

int \*z;

z=&m;

cout<<"Adress of m"<<endl<<z<<endl;

z=&n;

cout<<"Adress of n"<<endl<<z<<endl;

getchar();

getchar();

}

***Q.No.22:What do know about Dereference(Indirection) Operator. Explains with any program example***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int m=10;

int n=20;

int \*z;

z=&m;

cout<<"Adress of m"<<endl<<z<<endl; //pointer variable

cout<<"Value of m"<<endl<<\*z<<endl; //indirectional operater / dereference operater

z=&n;

cout<<"Adress of n"<<endl<<z<<endl;

cout<<"Value of n"<<endl<<\*z<<endl;

getchar();

getchar();

}

***Q.No.23:Mudassar has a good student of Software Engineering. Many times he think about void pointer. Design a broad Logic about Mudassar perception with any Program example.***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int j=10;

float b=05.05;

char c='g';

void \*z;

z=&j;

cout<<"Adress of j"<<endl<<z<<endl;

z=&b;

cout<<"Adress of b"<<endl<<z<<endl;

z=&c;

cout<<"Adress of c"<<endl<<z<<endl;

getchar();

getchar();

}

***Q.No.24: Write a Program that perform Addition of two integer variables using concepts of Pointers and Memory Addresses.***

***Program.***

#include<iostream>

using namespace std;

void main()

{

int a,b,\*x,\*y,result;

cout<<"\nEnter any two digits for adding\n"<<endl;

x=&a;

cout<<"Enter first digits=\n"<<endl;

cin>>a;

y=&b;

cout<<"\nEnter second digits="<<endl;

cin>>b;

result=\*x+\*y;

cout<<"\nThe sum is="<<result<<endl;

getchar();

getchar();

}

***Q.No.25: Write a Program that take parameter.***

#include<iostream>

using namespace std;

void counter(int rx)

{

cout<<"value is "<< rx;

}

int main()

{

int y, x;

y = 20;

x = y;

counter(x);

system("pause");

return 0;

}