Assignment # 1

2024124 — Awais — BsAI

Q1:

Solution:

```cpp
# include <iostream>
# include <cmath>
using namespace std;
int main () {
int num, power, new num;
cout <<"Enter value of num"<< endl;
cin >> num;
cout <<"Enter value of power"<< endl;
cin >> power;
newnum = pow (num, power);
cout << "The power of" << num
<<"with"<< power << "is "<< newnum <<endl;
return 0;
}
```

Q2:

Solution:

```cpp
# include < iostream>
using namespace std;
int main () {
float radius, area, circumference, sqr;
const int pi = 3.14159 ;
```

```
cout << "Enter radius of sphere" << endl;
cin >> radius;
sqr = radius * radius;
area = 4 * pi * sqr
cout << "The area of sphere is :" <<
area << endl;
circumference = 4 * pi * radius;
cout << "The circumference of sphere
is :" << circumference endl;
    return 0;
    }
```

Q 3:

Solution:

```
#include < iostream>
#include <cmath>
using namespace std;
int main () {
float a, b, c, s, z, area;
cout << "Enter value of a, b and
c respectively" << endl;
cin >> a >> b >> c;
s = (a+b+c)/2;
z = s * (s-a) * (s-b) * (s-c);
area = sqrt (z);
cout << "The area of triangle is :"
<< area << endl;
    return 0;
    }
```

Q 4:

Solution:

```cpp
#include <iostream>
using namespace std;
int main () {
    int age, months, days,
    cout << "Enter your age" << endl;
    cin >> age;
    cout << "You are" << age << "years old" << endl;
    months = age * 12;
    cout << "You are" << months << "year old" << endl;
    days = age * 365;
    cout << "You are" << days << "old" << endl;
    return 0;
}
```

Q 5:

Solution:

```cpp
#include <iostream>
using namespace std;
int main () {
    float distance, petrol, cd70, cg125;
    cout << "Enter distance in kilometers" << endl;
    cin >> distance;
    cd70 = distance * 0.01992031873;
    cg125 = distance * 0.02469135802;
```

```
cout << "Required petrol for CD70 is : "
<< cd70 << "liter" << endl;
cout << "Required petrol for CG125 is : "
<< cg125 << "liter" << endl;
    return 0;
}
```

Q, 6:

Solution:

```
#include < iostream>
using namespace std;
int main () {
int basicsalary, houseallownce, transportalloance,
medicalbills, totalsalary, nhl, nta, newsalary, difference;
cout << "Enter your basic salary" << endl;
cin >> basicsalary;
houseallloance = basicsalary * 0.30;
transportalloance = basicsalary * 0.10;
medicalbills = basicsalary * 0.25;
totalsalary = houseallowance + transportallowance +
medicalbills + basicsalary
cout << "Total Gross salary is : " <<
totalsalary << : endl;
nhl = basicsalary * 0.40;
nta = basicsalary * 0.15;
nmb = basicsalary * 0.35;
newsalary = nhl + nta + nmb + basicsalary
cout << "New total Gross salary is : " <<
newsalary << endl;
```

```cpp
difference = newsalary - totalsalary
cout << "Diff b/w new and old salary
is :" << difference << endl;
return 0;
}
```