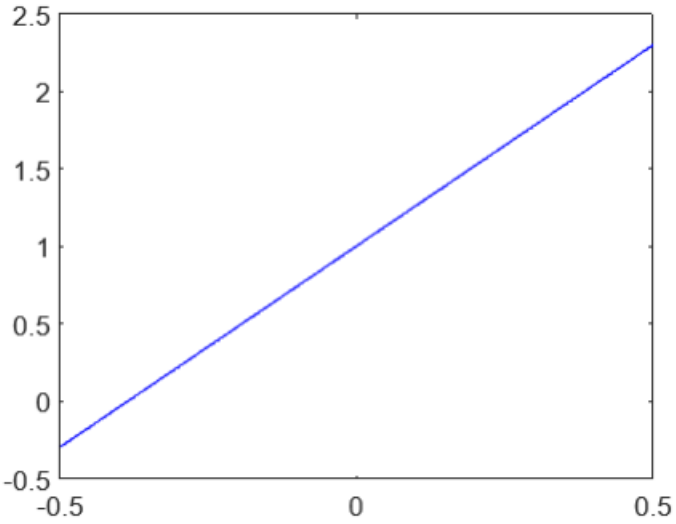
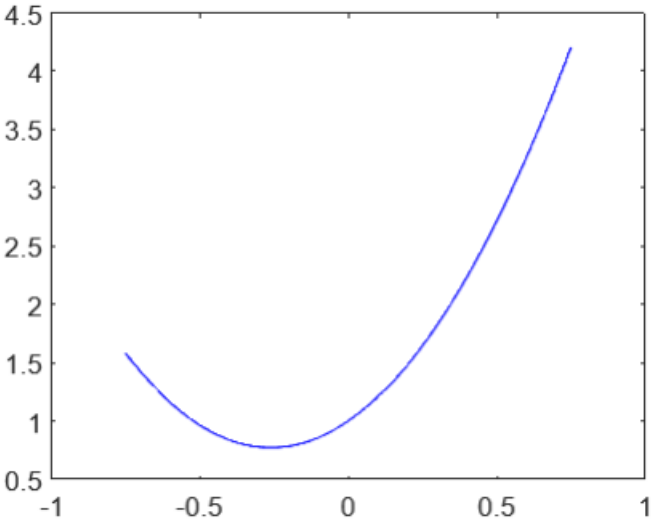
1.Exact value=9.487735836358526
i)f(2.25)=9.496924999999997
ii)f(2.25)=9.496924999999999

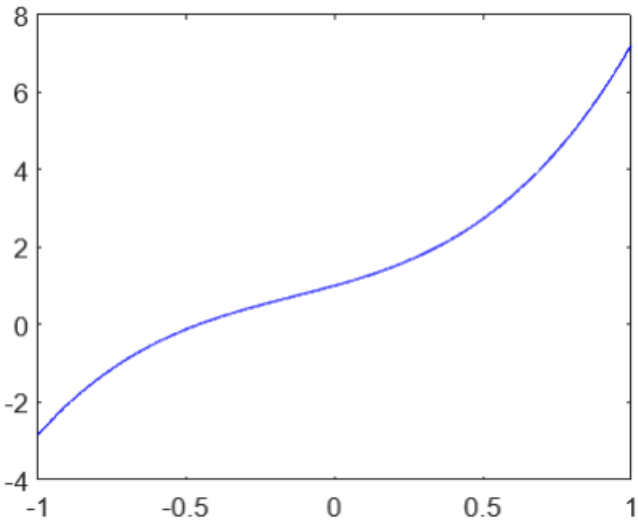
2.a)
x_0=0.43



P(x)=2.5948x+1
$P(x_0)$=2.11579



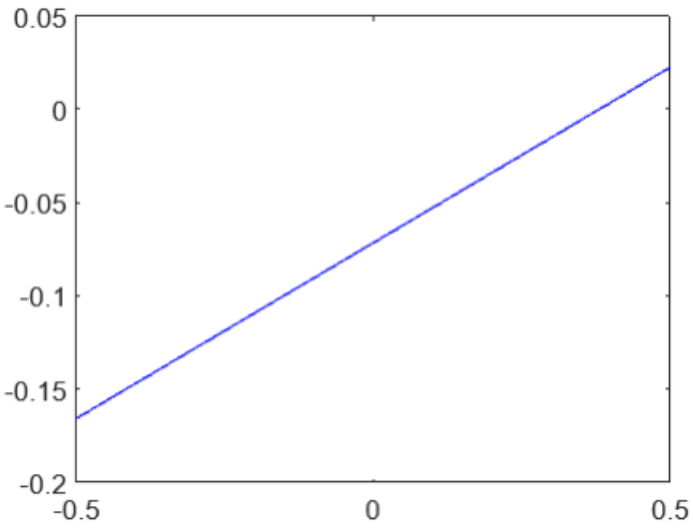
P(x)=3.3667x^2+1.7532x+1
$P(x_0)$=2.3763825



P(x)=2.9121x^3+1.1826x^2+2.1172x
+1
$P(x_0)$=2.3606047

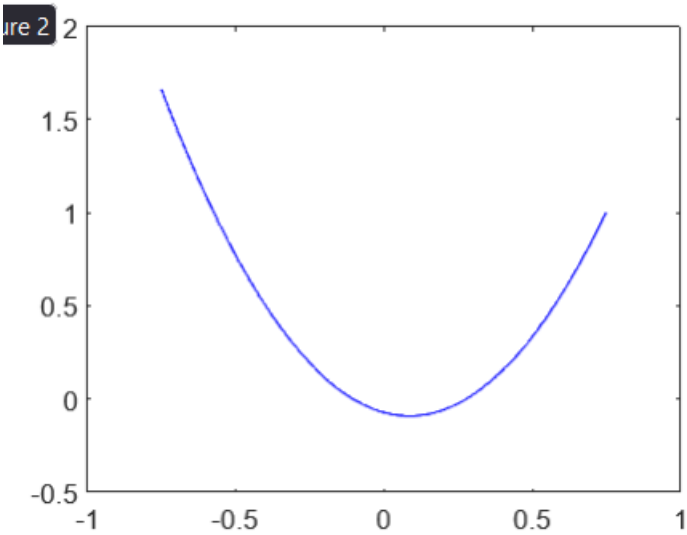
b)

x_0=-1/3



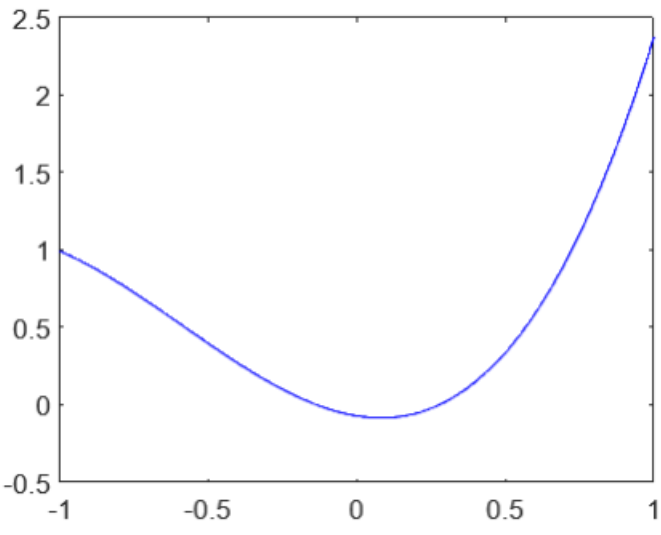
P(x)=0.1882x-0.0718

$P(x_0)$=-0.1345



P(x)=2.5010x^2-0.4370x-0.0718

$P(x_0)$=0.35174



P(x)=x^3+1.7510x^2-0.3120x-0.0718

$P(x_0)$=0.1897

3)
f(1+√10)=0.0545715

In the order of newton forward, newton backward and lagrange:

```
0.0385    0.3337    0.1166    -0.3718    -0.0549    0.6059    0.1902    -0.5134    -0.0668    0.4483

0.0385    0.3337    0.1166    -0.3718    -0.0549    0.6059    0.1902    -0.5134    -0.0668    0.4483

0.0385    0.3337    0.1166    -0.3718    -0.0549    0.6059    0.1902    -0.5134    -0.0668    0.4483
```

the behaviour of f(x)=1/(1+√x) is very different from any polynomial therefore it is not converging for any method